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The preventive effect and its behavioral impact on market manipulations at the European Energy Exchange (EEX): Economic incentives and regulatory strategies in a law and economics analysis

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SUMMARY

The work examines the problem of market manipulation in complex markets from an antitrust and capital market law perspective, using the example of the German wholesale market for electricity (European Energy Exchange, EEX) and applying the methodology of the economic analysis of law.

It is shown that authorities applying the ban of market manipulations on potential infringements regularly face problems of proving a breach of the law which may result in a lack of enforcement of sanctions. Considerable gaps in enforcement result that may reduce the deterrent effect of the prohibition significantly.

The central thesis of this work is therefore, that an evolution of the existing system of sanctions is required such that it exerts repercussions on market participants´ reasoning that make an offence unattractive already from the ex-ante perspective.

In the first section, the market conditions as well as the existing legal framework are examined. As a result of this analysis, incentives for manipulation of the market by market participants and the lack of effective instruments for law enforcement are found. The sector inquiries of both, the European Commission and the German Federal Cartel Office confirm this finding.

The second section of the work builds upon the positive analysis and proposes regulatory instruments to change the incentive scheme in the market. The focus is placed on measures that increase the probability of detection and punishment instead of the dogma of consistently increasing fines. The central proposal extends the existing leniency program for cartels on manipulation cases and combines it with a reward system for whistleblowers. This approach proposes an increased probability of detection of market manipulations and thereby boosts the deterrent effect of antitrust law. Also, the effective coordination of public and private antitrust enforcement efforts is a necessary accompanying measure to remedy deficiencies of law enforcement.

ZUSAMMENFASSUNG

Die Arbeit untersucht das Problem der Marktmanipulation in komplexen Märkten aus kartell- und kapitalmarktrechtlicher Perspektive am Beispiel des deutschen Großhandelsmarktes für Strom (European Energy Exchange, EEX) mittels einer ökonomischen und rechtlichen Analyse.

Es wird aufgezeigt, dass die Behörden bei der Anwendung des Manipulationstatbestandes auf mögliche Verstöße häufig vor Nachweisproblemen stehen, die im Ergebnis zu einer fehlenden Durchsetzung von Sanktionen trotz Tatbestandsmäßigkeit führen können. Dadurch kommt es zu Lücken in der Rechtsdurchsetzung, die den Abschreckungseffekt der Verbotstatbestände erheblich mindern.

Zentrale These der Arbeit ist daher, dass das bestehende Sanktionensystem derart weiterentwickelt werden muss, dass es Rückwirkungen bereits auf die Tatbestandsebene entfaltet, die einen Verstoß gegen das Manipulationsverbot schon aus der ex-ante Perspektive unattraktiv machen.

Im ersten Teil werden das Marktumfeld sowie der bestehende Rechtsrahmen untersucht und Manipulationsanreize für die Marktteilnehmer sowie das Fehlen effektiver Instrumente zur Rechtsdurchsetzung festgestellt. Die Sektoruntersuchungen der Europäischen Kommission sowie des Bundeskartellamtes bestätigen diesen Befund.

Der zweite Teil setzt auf die positive Analyse auf und schlägt Regulierungsinstrumente zur Änderung des Anreizsystems vor. Dabei ist der Fokus anstelle stetig steigender Bußgelder auf Maßnahmen zur Steigerung der Entdeckungswahrscheinlichkeit zu legen. Es wird vorgeschlagen, das bestehende Kronzeugenprogramm auf Manipulationsfälle auszudehnen und mit einem Belohnungssystem für Whistleblower zu kombinieren, um vermehrt Verstöße aufzudecken und den Abschreckungseffekt der Manipulationstatbestände zu erhöhen. Begleitend ist eine effektive Koordinierung der Maßnahmen staatlicher und privater Durchsetzung des Kartellrechts geboten, um Durchsetzungsdefizite zu beseitigen.

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THE PREVENTIVE EFFECT AND ITS BEHAVIORAL IMPACT ON MARKET MANIPULATIONS AT THE EUROPEAN ENERGY EXCHANGE (EEX)

Economic Incentives and Regulatory Strategies in a Law and Economics Analysis

Dissertation zur Erlangung des akademischen Grades Dr. iur.

Betreuer: Prof. Dr. Hans-Peter Schwintowski

I hereby declare and confirm that this thesis is entirely the result of my own work except where otherwise indicated. I acknowledge the supervision and guidance I have received from Prof. Dr. Hans-Peter Schwintowski, Humboldt-Universität zu Berlin.

This thesis is not used as part of any other examination and has not yet been published.

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November 14, 2017

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Abbreviations

a	-	annum (year)
ACER	-	Agency for the Cooperation of Energy Regulators
AG	-	Aktiengesellschaft (Corporation)
AktG	-	Aktiengesetz (German Corporation Act)
AO	-	Abgabenordnung (German Fiscal Code)
Art.	-	Article
AtG	-	Atomgesetz (German Atomic Energy Act)
AusglMechV	-	Ausgleichsmechanismusverordnung (German Statutory Order on the EEG Clearing Mechanism)
BaFin	-	Bundesanstalt für Finanzdienstleistungsaufsicht (German Federal Financial Supervisory Authority)
BB	-	Betriebs-Berater (Journal)
BDEW	-	Bundesverband der Energie- und Wasserwirtschaft (German Federal Association of Energy and Water Industry)
BGB	-	Bürgerliches Gesetzbuch (German Civil Code)
BGBl	-	Bundesgesetzblatt (Federal Law Gazette)
BGH	-	Bundesgerichtshof (Federal Court of Justice)
BGHSt	-	Collection of Federal Court decisions in criminal law
BGHZ	-	Collection of Federal Court decisions in civil law
BKartA	-	Bundeskartellamt (Federal Cartel Office)
BNetzA	-	Bundesnetzagentur (Federal Network Agency)
BörsG	-	Börsengesetz (German Securities Exchange Act)
BörsO	-	Börsenordnung (Exchange regulations)

BT-Drucks.	-	Bundestagsdrucksache (printed matter of the German Federal Parliament)
BVerfG	-	Bundesverfassungsgericht (German Federal Constitutional Court)
BVerfGE	-	Entscheidungen des Bundesverfas-sungsgerichts (Decisions of the German Constitutional Court)
CCP	-	Competition Commission of Pakistan
CCZ	-	Corporate Compliance Zeitschrift (Journal)
CFI	-	Court of First Instance
CRE	-	Commission de Régulation de l`Energie (French energy regulation authority)
DG	-	Directorate General
DIR	-	(European) Directive
DVBl	-	Deutsches Verwaltungsblatt (Journal)
EC	-	European Community
ECC	-	European Commodity Clearing
ECHR	-	European Convention on Human Rights
ECJ	-	European Court of Justice
ECtHR	-	European Court of Human Rights
EEG	-	Erneuerbare Energien Gesetz (German Renewable Energy Act)
EEX	-	European Energy Exchange
EGBGB	-	Einführungsgesetz zum Bürgerlichen Gesetzbuche (Introductory Act to the Civil Code)
EMIR	-	European Market Infrastructure Regulation
emw	-	Zeitschrift für Energie, Markt, Wettbewerb (Journal)
EnBW AG	-	Energie Baden-Württemberg AG
EnWG	-	Energiewirtschaftsgesetz (German law on the Energy Industry)
EPEX Spot	-	European Power Exchange
ESMA	-	European Securities and Markets Authority
et	-	Energiewirtschaftliche Tagesfragen (Journal)
et sqq.	-	and the following

EU	-	European Union
EuZW	-	Europäische Zeitschrift für Wirtschaftsrecht (Journal)
EWeRK	-	Bimonthly journal of the Institute for Energy and Competition Law in Municipal Economy
EWS	-	Europäisches Wirtschafts- und Steuerrecht (Journal)
FCO	-	Federal Cartel Office (Bundeskartellamt)
FiMaNoG	-	Erstes Finanzmarktnovellierungsgesetz (First Act Amending Financial Markets Regulations)
FNA	-	Federal Network Agency (Bundesnetzagentur)
FRUG	-	Finanzmarktrichtlinie Umsetzungsgesetz (Act implementing the Markets in Financial Instruments Directive)
GmbH	-	Gesellschaft mit beschränkter Haftung (German limited liability company)
GmbHG	-	GmbH-Gesetz (German Act on Limited Liability Companies)
GWB	-	Gesetz gegen Wettbewerbsbeschränkungen (German Act Against Restraints of Competition)
HHI	-	Herfindahl-Hirschmann Index
HÜSt	-	Handelsüberwachungsstelle (Trading Surveillance Office)
ICER	-	Incremental cost-effectiveness ratio
i	-	Denominator of an individual firm
Iss.	-	Issue
JZ	-	Juristenzeitung (Journal)
KAGB	-	Kapitalanlagegesetzbuch (Capital Investment Act)
KAGG	-	Gesetz über Kapitalanlagegesellschaften (Act on Capital Investment Companies)
KG	-	Kammergericht (Higher Regional Court of Berlin)

kWh	-	Kilowatt hour
KWKG	-	Kraft-Wärme-Kopplungsgesetz (German Cogeneration Act)
KWG	-	Kreditwesengesetz (German Banking Act)
lit.	-	letter
LPX	-	Leipzig Power Exchange
MAD	-	Market Abuse Directive
MaKonV	-	Verordnung zur Konkretisierung des Verbotes der Marktmanipulation (Statutory Order Concretizing the Ban of Market Manipulations)
MAR	-	Market Abuse Regulation
MC	-	Marginal Cost
MiFID	-	Markets in Financial Instruments Directive
MW	-	Megawatt
MWh	-	Megawatt hour
n	-	Total number of firms in the market
N°	-	number
NJW	-	Neue Juristische Wochenschrift (Journal)
N&R	-	Netzwirtschaften und Recht (Journal)
NStZ	-	Neue Zeitschrift für Strafrecht (Journal)
NZG	-	Neue Zeitschrift für Gesellschaftsrecht (Journal)
NZKart	-	Neue Zeitschrift für Kartellrecht (Journal)
OECD	-	Organisation for Economic Co-operation and Development
OFT	-	Office of Fair Trading
OLG	-	Oberlandesgericht (Higher Regional Court)
OMB	-	Office of Management and Budget
OTC	-	Over-the-counter
OWiG	-	Ordnungswidrigkeitengesetz (German Code on Administrative Offences)
p.	-	Page
PDV	-	Present Discounted Value
Phelix	-	Physical Electricity Index

PV	-	Photovoltaic
R&D	-	Research and Development
RdE	-	Recht der Energiewirtschaft (Journal)
ree	-	Recht der Erneuerbaren Energien (Journal)
Ref.	-	Reference
REG	-	(European) Regulation
REMIT	-	Regulation on Energy Market Integrity and Transparency
RSI	-	Residual Supply Index
RWE AG	-	Rheinisch-Westfälisches Elektrizitätswerk AG
SE	-	Societas Europaea (public EU company)
Sec.	-	Section
SMWA	-	Sächsisches Staatsministerium für Wirtschaft, Arbeit und Verkehr (Saxon State Ministry of Economic Affairs, Labor and Transport)
SSNIP	-	Small but Significant Non Transitory Increase in Price
StGB	-	Strafgesetzbuch (German Criminal Code)
StPO	-	Strafprozessordnung (German Code of Criminal Procedure)
StromNEV	-	Stromnetzentgeltverordnung (German Statutory Order on Access Fees for Electricity)
StromNZV	-	Stromnetzzugangsverordnung (German Statutory Order on Network Access for Electricity)
TEC	-	Treaty of the European Community
TEEC	-	Treaty Establishing the European Economic Community
TEHG	-	Treibhausgasemssionshandelsgesetz (German Act on Emissions Trading)
TFEU	-	Treaty on the Functioning of the European Union (Vertrag über die Arbeitsweise der Europäischen Union - AEUV)
TWh	-	Terrawatt-hour
UWG	-	Gesetz gegen den unlauteren Wettbewerb (German Act Against Unfair Competition)

v	-	versus
VAT	-	value added taxes
VerkProspG	-	Verkaufsprospektgesetz (German Securities Sales Prospectus Act)
VermAnlG	-	Gesetz über Vermögensanlagen (Act on Investments)
Vol.	-	Volume
VW	-	Versorgungswirtschaft (Journal)
VwVfG	-	Verwaltungsverfahrensgesetz (Administrative Procedure Act)
WiStG	-	Wirtschaftsstrafgesetz (Commercial Criminal Act)
WM	-	Wertpapier-Mitteilungen (Journal)
WpHG	-	Wertpapierhandelsgesetz (German Securities Trading Act)
WpPG	-	Wertpapierprospektgesetz (Securities Prospectus Act)
wrp	-	Wettbewerb in Recht und Praxis (Journal)
WuW	-	Wirtschaft und Wettbewerb (Journal)
WuW/E	-	WuW-Entscheidungssammlung zum Kartellrecht (WuW Collection of Decisions in Antitrust)
ZfE	-	Zeitschrift für Energiewirtschaft (Journal)
ZGR	-	Zeitschrift für Unternehmens- und Gesellschaftsrecht (Journal)
ZHR	-	Zeitschrift für das gesamte Handels- und Wirtschaftsrecht (Journal)
ZIP	-	Zeitschrift für Wirtschaftsrecht (Journal)
ZNER	-	Zeitschrift für Neues Energierecht (Journal)
ZWeR	-	Zeitschrift für Wettbewerbsrecht (Journal)

Register of variables

α	-	multiplier indicating the gravity of an antitrust infringement
a	-	action of a firm
a*	-	optimal action of a firm
β	-	multiplier indicating the level of general deterrence
A_i	-	assets of a firm i
C	-	cost
C_B	-	cost in the baseline scenario
c_D	-	cost of being detected to an individual
C_D	-	cost of being detected to a firm
c_f	-	fixed cost of production
c_i	-	marginal cost of supplier i
C_R	-	cost in the regulated scenario
c_v	-	variable cost of production
γ	-	exogenous cost parameter
d	-	demand share of one firm
δ	-	factor for the absorption of additional revenue
d_E	-	individual expected damages for an antitrust infringement
d_G	-	individual damages paid to the government as criminal and/or civil sanction
d_{GD}	-	debarment (government sanction)
d_{GF}	-	fine (government sanction)
d_{GJ}	-	imprisonment (government sanction)
d_P	-	individual damage paid to private claimants
d_y	-	duration of an antitrust infringement in years
D	-	total market demand
D_A	-	damages originating from antitrust laws

D_E	-	expected damages of a firm for an antitrust infringement
D_G	-	damages paid to the government as criminal and/or civil sanction
D_M	-	damages originating from capital market laws
D_P	-	damages claimed by private injured parties from firms
dy/dx	-	first derivative of y after x
d^2y/dx^2	-	second derivative of y after x
e	-	efforts for the punishment of manipulators
e_G	-	governmental efforts for the detection of manipulations
e_E	-	efforts by the exchange
e_F	-	efforts by the FCO
e_P	-	private efforts for the detection of manipulations
E_B	-	effectiveness in the baseline scenario
E_R	-	effectiveness in the regulated scenario
i	-	index for a firm
m	-	markup on a price p
m_i	-	individual income of the customer i
N	-	number of players in strategic game
P	-	market reserve price
p_i	-	probability of dispatch for supplier i
p_j	-	price of the good j
p_k	-	price of other goods k
p_O	-	overcharged price
p_P	-	probability of detection
p_s	-	spot price for power
p^*	-	market equilibrium price
p^{**}	-	new market equilibrium price
Δp	-	change of the price p
$\prod$	-	profit

Π_i	-	individual profit of firm i
r	-	interest rate
r_C	-	rate of conviction
r_D	-	rate of detection
R	-	revenue
$R_i(.)$	-	best response function for firm i
R_O	-	revenue in case of price overcharge
s_c	-	consumer surplus for the individual customer
S_{ci}	-	consumer surplus for the market
S_e	-	economic surplus
S_i	-	supply by the firm i
s_i	-	demand share of generator i
s_{pi}	-	producer surplus for the individual producer
S_p	-	producer surplus for the market
T	-	taxes
u	-	utility of the customer
x_i	-	quantity of the good i
x^*	-	optimal quantity
Δx	-	change of the quantity x
X	-	quantity of a good in the market
X^j	-	market demand for the good j
y_i	-	quantity produced by firm i
Y_i	-	maximum production by firm i

The preventive effect and its behavioral impact on market manipulations at the European Energy Exchange (EEX)

- Economic Incentives and Regulatory Strategies in a Law and Economics Analysis -

FIRST CHAPTER: THE RESEARCH PROJECT AND ITS ECONOMIC AND LEGAL FOUNDATIONS

A. Introduction

"We who live in free market societies believe that growth, prosperity and ultimately human fulfillment, are created from bottom up, not the government down. Only when the human spirit is allowed to invent and create, only when individuals are given a personal stake in deciding economic policies and benefiting from their success – only then can societies remain economically alive, dynamic, progressive, and free. Trust the people. This is the one irrefutable lesson of the entire postwar period contradicting the notion that rigid government controls are essential to economic development."[1]

When the German energy market was opened in 1998, this event was connected with numerous expectations for a plurality of suppliers in the market, better supply of customers and, overall, lower prices for them.[2] After decades of dominance of trusts and cartels

[1] Ronald Regan, 40th President of the United States of America (1981-1989). September 29th, 1981.
[2] Peter Becker, *Aufstieg und Krise der deutschen Stromkonzerne: Zugleich ein Beitrag zur Entwicklung des Energierechts* (Bochum: Ponte Press, 2010), 78.

in the German energy market, almost not interrupted or even supported by government regulation, the directive concerning common rules for the internal market in electricity of the European Parliament from 1996[3] was expected to break the market power of the established companies and introduce competition in the crucial markets for power generation, transmission and distribution.

Yet, the years to follow the liberalization showed with huge clarity that the trusts were not willing to give up their dominant position in this profitable market without opposition. Their traditional and well-cultivated linkages with the political decision makers allowed them to influence legislation in their interest and keep their dominant position in the market.[4] In particular, the creation of the European Energy Exchange (EEX) in 2002 was an appreciated opportunity for the trusts to control the development of power prices in their interest.[5]

As a result, the German Federal Cartel Office (FCO) states in its 2011 sector inquiry on the power generation and power wholesale markets in Germany, that the competitive environment on the market for first-time sale of electricity is still dissatisfactory.[6] The office was investigating price manipulations at the EEX through physical as well as financial capacity retentions by the four trusts in the German energy market: E.ON, RWE, Vattenfall and EnBW. Several indications had been suggesting that the oligopoly firms were abusing their market power to charge prices above their marginal cost of production to the detriment of the consumers.[7] Yet, in spite of a huge data collection and evidence found for excessive prices at the stock exchange, the office was incapable to prove manipulations. Before, already the European Commission failed in proving manipulations in a 2007 examination – it ended with commitments of the huge suppliers instead of sanctions.[8]

In similar cases concerning complex circumstances in capital markets, e.g. the German case Volkswagen/Porsche in 2008[9], the authorities did also face huge difficulties to prove manipulations. Apparently, there are cases in the field of the antitrust and capital market manipulation offenses that are most probably punishable – but where the actual enforce-

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[3] European Parliament and European Council, Directive concerning common rules for the internal market in electricity, N° 96/92/EC from December 19th 1996. The directive was transposed into German law with the law on the energy industry [Energiewirtschaftsgesetz (EnWG)], from April 29th 1998, BGBl. I 730.

[4] Peter Becker, *Aufstieg und Krise der deutschen Stromkonzerne: Zugleich ein Beitrag zur Entwicklung des Energierechts* (Bochum: Ponte Press, 2010), 78.

[5] Ibid.

[6] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 284.

[7] Becker, *Aufstieg und Krise der deutschen Stromkonzerne: Zugleich ein Beitrag zur Entwicklung des Energierechts* (Bochum: Ponte Press, 2010), 78.

[8] Commission of the European Communities, Commission staff working document, COM(2006) 851 final, 142 Ref. 428.

[9] Möllers, "Die juristische Aufarbeitung der Übernahmeschlacht VW-Porsche – ein Überblick", *NZG* Vol. 17, no. 10 (2014), 363.

ment of a sanction fails in practice due to a lack of prove. Such shortcomings in enforcement do, however, diminish the deterrent effect of any prohibition. This work will hence treat the question how the legal framework may be adapted in order to effectively deter infringements of the manipulation offenses. The **central proposition** that will be developed for this purpose in the following chapters is the following:

> The system of sanctions needs to be revised in a way that it creates repercussions on the offense such that an infringement of the ban on manipulations becomes unattractive for market participants already from an ex ante perspective.

This proposition will be developed using the allegations of market manipulations at the European Energy Exchange (EEX) as an example. This prominent case is well suited for an exemplary treatment of the shortcomings in enforcement in complex manipulation cases due to the comprehensive data available. In a first step, it will be shown that the current design of the regulatory framework creates incentives for market participants to engage in market manipulations. This proposition is supported using data from the FCO´s and European Commission´s investigations as well as a model from industrial organization. It will also be shown that in practice, authorities do lack effective instruments to prove manipulations in cases like this. On the basis of these findings, the work will concentrate on regulatory strategies that are suited to bring about positive behavioral effects impacting the market participants´ behavior pursuant to the regulator´s goals in a second step. The incentive system needs to be changed in such a way that manipulating the market is no longer an attractive option for actors, but are avoided due to the deterrent legal framework. The most promising approach recommended in this work is a reform of the system of sanctions and, subsequently, a change of paradigm in the FCO treatment of abuse of market power:

- Instead of the sole focus on increasing **government fines** for infringements, a turn towards measures that increase the **probability of detection of infringements**, and
- an **efficient combination** of available instruments of **public and private market supervision** are likely to result in a higher deterrent effect than the current legal framework.

The main theses for the analysis will be presented in the next section B., followed by a description of the methodology used – the economic analysis of law – in section C. and an overview of the essential characteristics of the German energy market and the legal situation in Germany and the European Union (section D.). Section F. Summarizes the results of the first chapter.

The **second chapter** of the work introduces the economic and legal basics shaping the exemplary case of allegations of market manipulations at the EEX. The potential manipulation strategies of the trusts at the EEX are discussed and subsumed under German and EU competition law. Subsequently, the obstacles to proving the suspicions of manipulations for competition authorities will be demonstrated. In the case at hand, such shortcomings in enforcement did – in spite of a number of strong indications – result in no sanction for the allegations of manipulations. The fact that an infringement of the manipulation offense was probable is shown using a model of industrial organization. The chapter closes with the finding that the current legal framework, in spite of its regulatory density, provides incentives for actors to manipulate the market.

A behavioral impact on actors that makes manipulating the market unattractive to them may be reached with an efficient system of market surveillance both publicly and privately as it is introduced in the third and fourth chapters of this work. The **third chapter** starts with a comprehensive economic and legal analysis that shows that the authorities´ current focus on tremendous fines does not only lead to an ineffective deterrence of manipulations, but also infringes European and German constitutional law. The work does hence propose legal instruments that increase the probability of detection of market manipulations. It is only on this way that the necessary impact on the market participants´ behavior may be reached.

The following **fourth chapter** does furthermore treat strategies of private market surveillance that may increase deterrence of market manipulations if designed appropriately – namely damages claims of injured parties.

As a result of the preceding analysis, the **fifth chapter** examines conflicts of objectives between the different regulatory approaches discussed and develops a new regulatory approach for the treatment of market manipulations: An integrated system of market surveillance. This approach promises an impact on the market actors´ behavior that avoids manipulations and is hence superior to the currently practiced, fragmented regulatory system.

The final **sixth chapter** summarizes the results.

B. Research theses

This scientific work is going to prove the following theses concerning the market manipulations at the European Energy Exchange:

(1) The data from the Federal Cartel Office sector inquiry 2011 as well as the market structure in the market for power generation suggest that market participants did have incentives to increase their profit through market manipulations during the period of examination.

(2) The fight against market manipulations requires a regulatory impact on the market actors´ behavior. For this purpose, the incentive system needs to be changed using a bundle of legislative measures, such that manipulations are no longer an attractive option for market participants.

(3) The required impact on the actors´ behavior may be reached by a change of the system of sanctions that creates repercussions on the offense. The FCO is required de lege late to change the approach to public market surveillance by a shift from the current focus on tremendous fines towards an increased probability of punishment.

(4) Furthermore, the legislator needs to create better incentives for injured parties to participate in market surveillance de lege ferenda. This way, the deterrent effect of public market surveillance may be increased and information carriers from the sphere of potential infringers be incentivized to disclose their information to the regulator.

(5) Eventually, public and private instruments of market surveillance need to be coordinated in an integrated system in order to achieve the highest possible level of deterrence at lowest cost and avoid potential conflicts between the instruments.

C. Methodology

The following analysis will be conducted based on the fundamentals of the economic analysis of law. This interdisciplinary field of research brings together the subjects of law and economics to provide a better understanding of systems of legal rules and public policy.[10] Economics, being at the most basic level a theory of rational behavior and decision making, offers essential tools to examine the law.[11]

This methodology allows for an explanation of the effects of existing laws and regulations on people´s behavior (positive analysis), as well as an assessment of efficient rules to control harmful incentives (normative analysis).[12]

I. Subject matters of the economic analysis of law

Although the first thoughts on economic effects of legislation reach back to 18th century classical economist Adam Smith[13], modern economic analysis of law only developed in the 1960s[14], mainly influenced by the publication of Ronald Coases groundbreaking article "The Problem of Social Cost".[15] In the early years, research focused on fields of law that were traditionally related to economics: Competition law and antitrust, industry regulation, tax and the determination of monetary damages in contract law and torts.[16] Legal scholars and judges were employing economic tools to help them solve their cases. Yet, soon the economic analysis of law expanded into all fields of the legal science, including legal procedure and constitutional law.[17] Today, the law and economics paradigm is influencing the way we think about legal rules and institutions and – especially in the United States – the legal practice.[18] Based on the concepts of neoclassical microeconomic theory,

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[10] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 11. For a detailed description of the cooperation of law and economics, see: Christian Kirchner, "Ökonomische Analyse des Rechts. Interdisziplinäre Zusammenarbeit von Ökonomie und Rechtswissenschaft", in *Ökonomische Analyse des Rechts*, ed. Heinz-Dieter Assmann, Christian Kirchner, and Erich Schanze (Tübingen: J.C.B. Mohr (Paul Siebeck), 1993), 62-78.

[11] David D. Friedman, *Law´s Order: What Economics Has to Do With Law and Why it Matters* (Princeton: Princeton University Press, 2000), 8.

[12] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 11.

[13] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (London: Methuen & Co., Ltd., 1776).

[14] Richard Posner, *The Economics of Justice* (Cambridge: Harvard University Press, 1983), 4.

[15] R. H. Coase, "The Problem of Social Cost," *Journal of Law & Economics* Vol. 3, no. 1 (1960).

[16] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 21. Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 1.

[17] Ibid, 2.

[18] Economic analysis defined as the study of how societies meet their material needs even expands to a wider range of fields such as associations and bureaucracy, see Hans-Bernd Schäfer and Claus Ott, *The Economic*

it has emerged as a powerful scientific tool that did – especially in industry regulation and antitrust law – form "the intellectual force" behind revolutionary changes in paradigm.[19]

By reason of the mentioned strengths of the economic analysis of law, this methodology is best suited to understand the market mechanisms in the primary market for electricity generation and identify the incentives for all market participants. Furthermore, the tools of economics allow for a normative analysis of the available regulatory instruments to reveal the most efficient measure against market distortions.

The following section will highlight the basic assumptions of the law and economics analysis to sketch the framework of this work.

II. Fundamental assumptions of the economic analysis of law

As outlined above, the core of the economic analysis of law is the application of microeconomic theory to laws and institutions.[20] To this end, the basic economic principle of efficiency is applied to legal rules.[21] Consequentially, the legal system as an institution as well as jurisprudence are considered to aim at the maximization of social welfare through the creation of efficient rules and decisions[22], opposed to basic legal theory that sees the primary end of legal rules and decision making in the achievement of justice.[23]

The main task of the economic analysis of law is the transformation of legal rules into variables that can be used in analyses with the following subjects:[24]

- Positive analyses of "the nature and origin of the existing legal system and its distribution of rights",

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Analysis of Civil Law (Cheltenham: Edward Elgar Publishing Limited, 2004), 50 and Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 2.

[19] Economic analysis of law was one of the leading forces behind the deregulation movement in the United States in the 1970s and the U.S: antitrust revolution in the 1970s and 1980s. See Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 3.

[20] Christian Kirchner, "Ökonomische Analyse des Rechts. Interdisziplinäre Zusammenarbeit von Ökonomie und Rechtswissenschaft", in *Ökonomische Analyse des Rechts*, ed. Heinz-Dieter Assmann, Christian Kirchner, and Erich Schanze (Tübingen: J.C.B. Mohr (Paul Siebeck), 1993), 70.

[21] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 3.

[22] Ibid, 3.

[23] Karl Larenz and Claus-Wilhelm Canaris, *Methodenlehre der Rechtswissenschaft* (Berlin: Springer-Verlag, 1995), 153. The economic approach to law is often criticized for the ignorance of justice. See Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 27.

[24] The summary of analytical subject is taken from Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 11.

- examinations on "the effect of the legal structure on allocative efficiency",
- research on "the necessary conditions for the development and emergence of efficient legal structures", and
- normative analyses of the implementation of efficient legal structures.

Both, the positive and the normative analysis, draw upon microeconomic principles.[25] Therefore, the fundamental assumptions of standard economic models apply.[26] In the course of this work, it will be indicated if additional assumptions are made respectively one of the underlying assumptions is modified. However, the following most basic assumptions characterizing neoclassical microeconomics do have to be essentially met in the models presented in this work:[27]

- Scarcity and
- methodological individualism.

1. Scarcity assumption

The main problem of economic behavior and studies is to cope with limited resources as opposed to peoples´ unlimited wants.[28] In a world of unlimited resources there is no need for rational choice. Therefore, economic thinking presumes that resources are limited – private consumers face an income restraint[29], businesses and the governments are confronted with a budget restriction.[30] Therefore, the maxim of the economic science is efficient resource allocation in the economy.

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[25] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 14.

[26] Assumptions in economic models serve the purpose of simplifying complex phenomena in reality to more easily study the effects of exogenous influences on the model world. Which assumptions are used in a model depends mainly on the question that shall be answered. See N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 23.

[27] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 50.

[28] Ibid.

[29] The income or budget restraint of private households is defined as "the limit on the consumption bundles that a consumer can afford". See N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 458.

[30] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 15.

2. Methodological individualism

The second important assumption underlying economic theory is that people are rational decision makers in pursuit of the maximization of their individual utilities – homo oeconomicus.[31] This abstract modeling of humans is also known as methodological individualism in the social sciences and forms the basis for a wide range of analyses.[32] The two main characteristics of the homo oeconomicus assumption, rationality and self-interest, shall be introduced a little further.

Rational behavior is most basically defined as purposeful choice.[33] A rational decision maker tries to find the alternative that ranks the highest in reaching his ends. This process is called maximizing the actor´s utility.[34] The premise of rationality does, however, not imply consciousness of a decision maker of his choice.[35] Whichever goal an agent pursues and regardless of which reasons – the rationality assumption is satisfied if the means to achieve the goal are used with the least possible waste of resources.[36] In order for this choice to be made, actors need a complete ordering of their preferences. In modern decision theory, three axioms of rationality allow for rational choices:[37]

- Completeness of preference relations[38],
- reflexivity[39], and
- transitivity[40].

Besides this core of axioms, two more extensions have been added to the mentioned axioms in the literature: Independence[41] and consistency[42]. Based on these hypotheses

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[31] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 3.
[32] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 51.
[33] Ibid.
[34] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 16.
[35] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 3, 4.
[36] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 52.
[37] Ibid.
[38] A complete ranking of all alternatives is given by pair-wise comparisons of all alternatives.
[39] It is assumed that any bundle of goods is at least as good as itself. See Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 35.
[40] Transitivity means that if the bundle X is preferred to Y and Y is preferred to Z, then X must also be preferred to Z. See ibid.
[41] The independence axiom means that the preference of one bundle X over another bundle Y remains even if the agent receives a third alternative z instead. See Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 53.
[42] The consistency axiom is satisfied if an agent preferring X over Y also prefers some chance of receiving X over the chance of receiving Y. See ibid.

about human behavior, predictions about the behavior of different actors in markets and other environments characterized by scarcity are possible.

The notion of **self-interest** is not equal with selfishness:[43] People may pursue selfish goals but may as well include other people´s happiness in their utility maximization.[44] In other terms, an actor´s self-interest may more appropriately be called his "subjective preferences".[45]

As a result, it shows that in the concept of homo oeconomicus **people respond to incentives**. That is, people´s behavior can be influenced by altering the institutional surroundings such that individual utility increases with altered decisions.[46] This important insight stresses the value of an economic analysis of the market for electricity: Only by naming the incentives influencing the different actors on the market and testing the influence of altered surroundings, it will be possible to detect manipulations of the market and identify the optimal corrective.

In order to compare the optimal market outcome with the actual market outcome and predictions about changes in the market triggered by different regulatory remedies, a benchmark has to be defined. In economics, this benchmark is social welfare.

3. Social choice theory

Assuming that the consequences of regulatory changes can be determined accurately, social choice theory offers different concepts that allow for a comparison of different market outcomes with regard to the socially preferable one.[47] Yet, there is not one unique concept that yields the social optimum of a decision problem. Depending on the definition of criteria the optimum shall fulfill, different value judgments are made in social choice theories.[48] The most important ones will be introduced briefly in the following sections:[49]

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[43] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 4.
[44] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 52, 55.
[45] With reference to Nobel Laureate John Harsanyi: Ibid, 54.
[46] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 4.
[47] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 20.
[48] Ibid, 21.
[49] Besides these two important criteria, a lot of other decision rules have been developed in the social sciences, e.g. the concept of utilitarianism going back to Jeremy Bentham. These alternative concepts, however, will not be discussed here because the following analysis is based on the widely accepted deckision rules proposed by Pareto and Kaldor-Hicks.

- The Pareto criterion (Pareto efficiency), and
- the Kaldor-Hicks criterion (Social welfare).

a) The Pareto criterion

Vilfredo Pareto was one of the first economists to study the comparison of different market outcomes.[50] He formulated what took later on his name as the Pareto principle[51]:

> "Consider two social states, x and y, each of which is a complete description of the society and the situation of each individual in it. Then if each member of society prefers x to y or is indifferent between x and y and at least one member prefers x to y, then x is socially preferable to y. Social choices that fulfill this condition are known as Pareto superior or Pareto improvements."[52]

The concept of Pareto allocative efficiency can be derived directly from this definition: A situation is Pareto efficient, if it is impossible to change the social status in order to make one person better off without making another individual in the society worse off.[53] Hence, according to the definition of Pareto, only situations where no Pareto improvements are possible can be Pareto efficient.[54] Yet, a Pareto efficient market outcome does not stringently describe a socially just one.[55] Notably, Pareto efficiency does not reflect the distribution of welfare in society. Instead, an allocation of all goods and resources satisfies the conditions of the Pareto principle, even though this result is not considered a reasonable allocation.[56] In the end, Pareto efficiency is a desirable end in social choice – yet, further criteria are needed to choose between different Pareto efficient allocations of one social state and ensure welfare distribution.[57]

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[50] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 15.
[51] This refers to the term "Pareto principle" used as synonym for Pareto efficiency and should not be confused with the statistical phenomenon known as the "80-20 rule".
[52] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 22.
[53] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 17.
[54] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 15.
[55] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 23.
[56] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 613.
[57] Ibid. Also Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 28-29.

Therefore, economists have been developing alternative concepts that allow for a distribution of welfare across people, the most important one being the Kaldor-Hicks criterion[58] presented in the next subsection.

b) The Kaldor-Hicks criterion

In 1939, Nicholas Kaldor and John Hicks proposed an alternative decision rule. The criterion later named after its originators is the following:

> "A social state x is distinguished from a social state y in that at least one member of the society prefers x to y and that at least one member prefers y to x. The social state x is superior to y if, and only if, those who prefer x can compensate those who prefer y so that they remain indifferent between x and y and those who prefer x are still better off in x than in y."[59]

In short, this decision rule prefers a social state over another if the benefitted group can virtually compensate the disadvantaged group and still have a net advantage.[60] As the term "virtual" implies, the compensation does not actually have to be paid. The denomination of the Kaldor-Hicks criterion as "potential Pareto superiority" illustrates this point precisely.[61] Instead, the technique of cost-benefit-analysis can be applied:[62] Adding the gains of all people in society and subtracting the accumulated losses from a change in social state yields a result that supports the change if it is positive, thus the benefits exceed the cost.[63]

The Kaldor-Hicks criterion, therefore, allows for the maximization of wealth of the society as a whole.[64] This approach is the basis of the field of welfare economics and will be used in this work to compare the different market outcomes from an economic point of view. The concept does not answer, however, questions of justice and ethical or social desirability with regard to the different market outcomes.[65] Anyhow, consensus for a social contract under the Kaldor-Hicks criterion can be justified with the notion of general compensation: Even if there is no compensation paid in individual cases, society benefits from the

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[58] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 47.
[59] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 30.
[60] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 47.
[61] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 14.
[62] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 47.
[63] Jonathan Gruber, *Public Finance and Public Policy* (New York: Worth Publishers, 2007), 202.
[64] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 31.
[65] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 14.

application of the Kaldor-Hicks criterion in the long run through a form of general compensation stemming from a higher level of wealth in this society. A higher level of wealth, consequentially, benefits all members of a society. Ultimately, the Kaldor-Hicks decision rule results in every individual decision being Pareto-superior.[66]

The analysis, therefore, does not pursue redistributive goals in the first place. Instead, the presented decision rules by Pareto and Kaldor-Hicks focus on efficient resource allocation in society in order to maximize the welfare of society as a whole. The restriction of the analysis to efficiency considerations is justified with the argument put forward by Cooter and Ulen (2008):[67]

- Imprecise targeting of redistribution by private legal rights,
- problems with the prediction of distributive effects of private law,
- high transaction costs from the redistribution through private law, and
- distortions of the economy from redistributions by private law.

For these reasons, private law is no desirable basis for the redistribution of wealth.[68] However, there are some limitations to this approach. The next section will highlight the weaknesses and criticism to the methodology of the economic analysis of law.

III. Limitations of the economic analysis of law

From the beginning of its development, the scientific methodology of law and economics has been subject to criticism.[69] In particular, the neoclassical fundament the economic analysis of law is predominantly based on, provokes critique.[70] The subsequent presentation of the main objections is split in a paragraph on

- disagreement with the homo oeconomicus model, and
- objections against the Kaldor-Hicks efficiency criterion.

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[66] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 32.
[67] Robert Cooter and Thomas Ulen, *Law & Economics* (Boston: Pearson Education, Inc., 2008), 10.
[68] Ibid, 11.
[69] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 25.
[70] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 34, 59.

1. Criticism of the homo oeconomicus model

Most notably, the artificial model of the homo oeconomicus has aroused antagonism.[71] Critics point out that the neoclassical model of decision-making does not accurately describe human decision-making. One of the main critiques is discussed under the keyword "bounded rationality": This literature demonstrates that people do neither have the necessary information, nor the mental capacity to act fully rational in making their decisions.[72] Further critique is treated under the headline of "behavioral anomalies": People tend to deviate from rationality under certain circumstances which can be summarized as follows: Framing, scenario thinking, overconfidence bias, opportunity cost anomaly, hindsight bias, anchoring, prospect theory, sunk costs, and probabilities.[73]

Yet, as Hayek (1955) pointed out, the power of the "generic figure" homo oeconomicus lies in its ability to explain the general nature of real world phenomena "and not in the accuracy of any particular instance".[74] Hence, the economic science does not draw on the perfect precision of the assumptions in every single case but infers predictions from assumptions "that can be considered to be broadly true".[75] Deviations from the homo oeconomicus model can therefore not broadly be interpreted as falsifications of the assumption.[76]

Anyhow, there have been efforts to specify the homo oeconomicus model in order to meet the criticism in recent years. The most noted approach in this field is behavioral economics, and for a short time, neuroeconomics.[77] Behavioral economics studies consumer´s choices using the insights of psychology.[78] The above-named behavioral anomalies are results of this field of study that shall help to improve our understanding of human choice behavior. Yet, the paradigm of behavioral economics has not yet succeeded in offering a workable model of consumer choice that is as simple and elegant as the neoclassical homo oeconomicus.[79]

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[71] Ibid, 34, 56.
[72] Ibid, 59.
[73] For a detailed description of the behavioral anomalies see ibid, 60-62.
[74] Ibid, 57. With reference to F. A. v Hayek, "Scientism and the Study of Society. Part I," *Economica* Vol. 9, no. 35 (1942), 267-291.
[75] Karl R. Popper, *The Poverty of Historicism* (London: Routledge and Kegan Paul: 1957).
[76] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 57.
[77] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 494.
[78] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 549.
[79] Ibid, 548.

Hence, despite of its weaknesses in accuracy for individual cases, the homo oeconomicus model of rational choice remains the core of economic analysis. This conclusion can be well defended based on Hayek´s and Popper´s insights on its practical benefits in making general predictions. It will therefore be employer in this work.

2. Criticism of the Kaldor-Hicks efficiency criterion

Another criticism mainly put forward by Eidenmüller (1995) refers to the Kaldor-Hicks criterion.[80] Eidenmüller attacks the ability of the efficient social state under the Kaldor-Hicks criterion to be consensual. The assumption that the disadvantaged group would be satisfied with waiting for a long-term compensation in the shape of a higher level of welfare is rejected by him as unrealistic.[81]

Although there is some justification for the Eidenmüller argument, there is empirical substance for the general compensation principle. It can be shown that rich industrialized nations having "instituted policies of wealth maximization" are generally better off than those nations without wealth maximizing institutions.[82] Furthermore, the philosophical debate about hypothetical consensus with regard to a certain social state should not hide the fact that the use of economic tools in legal analysis helps to clarify value conflicts as well as reach "given social ends by the most efficient path".[83]

In conclusion, the weaknesses highlighted above should not lead to a rejection of the methodology of the economic approach to law as a whole.[84] Some of the assumptions made in neoclassical economics prove to be pretty sound for general predictions. Moreover, there are many constellations that allow for a relaxation of the strict neoclassical framework and still yield convincing results. An effort will be made in this work to highlight the boundaries of the interpretation of results found on the basis of economic models to obtain a sound argumentation.

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[80] Hans-Bernd Schäfer and Claus Ott, *The Economic Analysis of Civil Law* (Cheltenham: Edward Elgar Publishing Limited, 2004), 34. With reference to Horst Eidenmüller, *Effizienz als Rechtsprinzip* (Tübingen: Mohr Siebeck, 1995).
[81] Ibid.
[82] Ibid.
[83] Richard A. Posner, *Economic Analysis of Law* (Boston: Little, Brown and Company, 1992), 25.
[84] Ibid.

IV. Conclusion

The preceding paragraphs provided a brief overview of the economic approach to law including its tools, underlying assumptions and potential weaknesses. In conclusion, the adequacy of economic reasoning with regard to the examination of the incentives that govern the behavior of market participants and also having regard to the comparison of different market outcomes under various regulatory arrangements has been demonstrated comprehensively. It will hence be applied in both the positive and normative analysis of the incentive structure at the EEX.

In a next step, the following section will provide an overview of the German energy market that is examined in the course of this work as an example. The special characteristics of the traded goods, demand and supply, market structure, and trading conditions at the energy exchange will be highlighted. Thereafter, section E. introduces the legal framework the actors are operating in.

D. Economic Foundations of the German Electricity Market

Energy markets in general and the German market in particular have some specific characteristics that discern them from the standard model of economic markets. This chapter is designed as an introduction to the economic theory of markets and a summary of the fundamental particularities in the German energy market. Thereby, the fundamental understanding of incentives for manipulations and their deterrence is carved out.

The first part treats the essentials of markets in economic theory including some remarks on welfare differences between competitive and concentrated markets. Part two examines more closely the demand and supply side in the German energy market and classifies the real conditions in the economic model. The final third part concludes.

I. Fundamentals of economic markets

Goods and services, including electricity, are traded in markets. An economic market is defined as a mechanism for the determination of goods and services prices and their exchange.[85] Market organization ranges from non-organized to highly organized structures like stock exchanges.[86] The basic concepts of demand, supply and market equilibrium introduced in the following subsections apply to all markets independently of their organizational form.

1. The market forces of demand and supply

In each market, there are two main groups of actors: Buyers wanting to acquire particular goods and services, as opposed to sellers aiming at the sale of their products. These two aggregated groups of people are termed the demand and the supply side of the market.

[85] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 26.
[86] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 66.

a) The demand side of the market

Demand is defined as "the amount of the good that buyers are willing and able to purchase"[87]. The individual demand function of a customer (x_i) therefore depends on three variables:

- The price of the good (p_j),
- the prices of other goods (p_k), and
- the individual income of the customer (m_i).[88]

This relationship can be written more formally as

$$x_i\ (p_j,\ p_k,\ m_i).$$

Market demand for the product j (X^j) is derived from individual consumer choice by adding up the individual quantities of the number of consumers in the market n:

$$X^j\left(p_j,\ p_k,\ m_1,\ \ldots,\ m_n\right) = \sum_{i=1}^{n} x_i(p_j,\ p_k,\ m_i).^{89}$$

All other things equal[90], the entire quantity demanded in the market is determined by the price of the good. For normal goods, the quantity demanded is negatively correlated with the price charged, other things equal.[91] In other words: People buy more units of a normal good if the price is lower. This correlation is best represented graphically in the demand curve D(p):

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[87] Ibid, 67.

[88] Other influences on demand, like the individual and social tastes, are left out in this analysis. For a detailed discussion of these special influences see Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 48.

[89] For the formal derivation see Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 266.

[90] Ceteris paribus assumption, in this example, the price of other goods p_k and the income m_i are held constant.

[91] So-called law of demand. See N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 67.

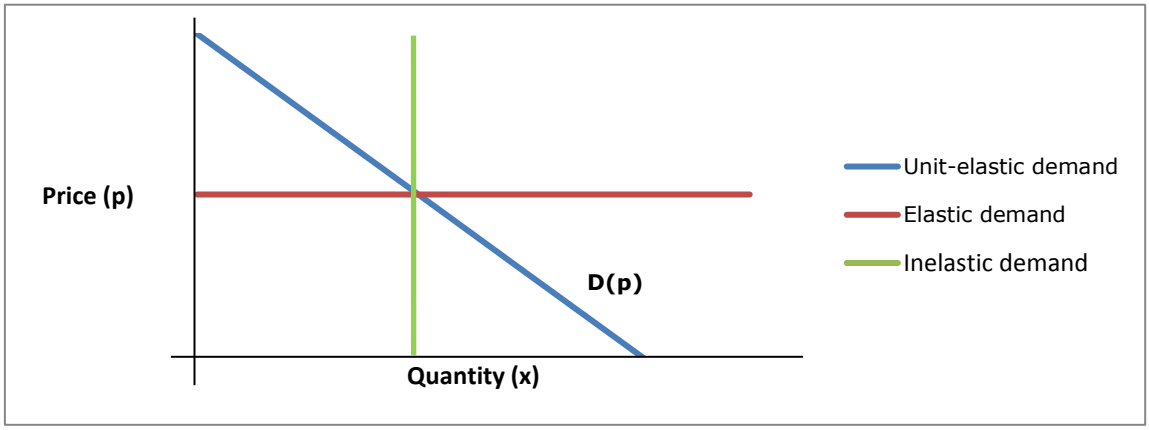

Figure 1: Downward-sloping demand curve and the price elasticity of demand

The demand curve is downward sloping[92], for reasons of simplification, a linear progression has been assumed in the figure above. The exact slope of the curve depends on the price elasticity of demand. This parameter measures the change in quantity demanded of a good when its price changes.[93] Economists discern elastic demand, where the quantity demanded changes substantially with price increases and inelastic demand, if only slight changes in quantity are observed in reaction to price increases.[94] In the graphical representation, perfectly inelastic demand results in a straight vertical line, whereas perfectly elastic demand yields a horizontal line that parallels the quantity axis.[95] The interpretation of the price elasticity of demand is straightforward: In case of inelastic demand, customers buy the same quantity of the good irrespective of the price. By contrast, in case of elastic demand, customers stop buying the product already in the event of slight price increases. The determinants of the price elasticity are manifold, however, some general influences can be spotted: The availability of close substitutes favors elastic demand, as well as a longer time horizon does. In contrast, necessities usually go along with inelastic demand. Eventually, the price elasticity depends on the boundaries of the market: Narrowly defined markets have more elastic demand than broadly defined ones.[96]

Apart from changes in price, the quantity demanded in a market can be influenced by external factors, such as the income available to buyers, changes in the prices of related goods, changes in trends, tastes, and expectations within the population or the number of

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[92] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 47.
[93] Ibid, 66.
[94] See N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 90. Furthermore, some textbooks also discuss unit-elastic demand if the percentage change in quantity equals the percentage change in price. See. For example Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 67.
[95] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 68.
[96] For details of the determinants of price elasticity see N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 90-91.

buyers in the market.[97] These influences lead to shifts of the demand curve to the left (characterizing a decrease in demand) or to the right (increase in demand).

b) The supply side of the market

Inversely to the demand side of the market, the group of suppliers forms the supply side. The quantity supplied is defined as the amount of a commodity that producers are willing to produce and sell, ceteris paribus.[98] The quantity supplied depends on the market price of the commodity concerned and is positively related to it.[99] Hence, a higher market price for a good causes the supply to increase. Equally as for the demand side, the market supply can be derived from the addition of the individual supply curves of all producers in the market.[100]

The slope of the supply curve depends on the price elasticity of supply. This measure states how much the quantity supplied of a given commodity changes in response to a change of the price of that good.[101] Similar to the price elasticity of demand, there are two cases: Elastic and inelastic supply. If the quantity supplied changes heavily with a change in price, supply is said to be elastic. If, on the contrary, the quantity offered in the market does only slightly respond to changes in price, supply is inelastic.[102] The graphical representation of the supply curve and the extreme cases of perfectly elastic and perfectly inelastic supply summarizes these relationships clearly.[103]

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[97] Ibid, 70-71.
[98] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 51.
[99] So-called law of supply. See N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 73.
[100] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 289.
[101] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 99.
[102] Ibid, 99.
[103] See for similar illustrations: Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 291. Also: N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 101.

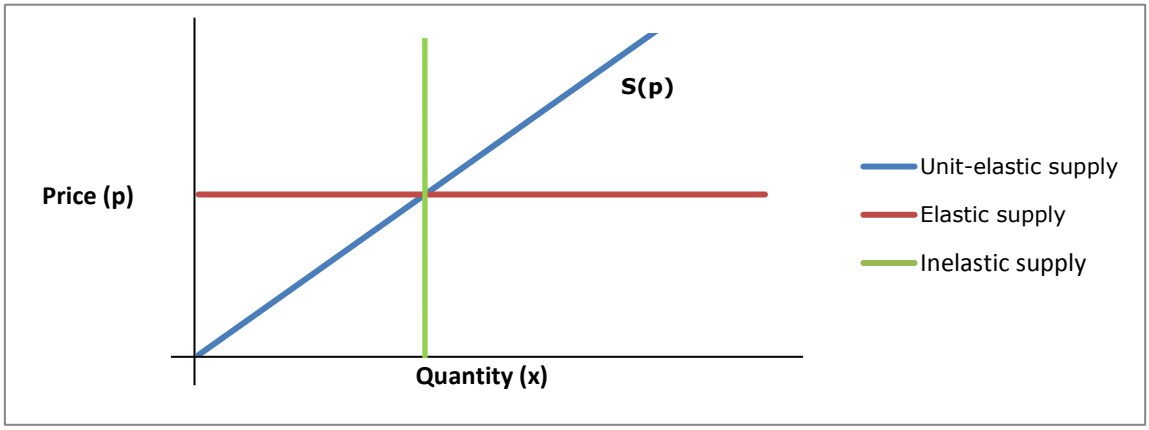

Figure 2: Upward-sloping supply curve and the price elasticity of supply

In the economic interpretation, the price elasticity of supply indicates the ability of producers to change the amount of the commodity they produce flexibly. Goods that are naturally or technologically limited in supply are relatively inelastic compared to manufactured goods with theoretically unlimited production.[104] Furthermore, the time horizon considered influences the elasticity of supply: In the short run, firms are relatively inflexible in changing their production capacity. Over a longer time period, however, they can adapt their production facilities and technique to the situation on the market, which results in an increasing elasticity of supply.[105]

Eventually, external factors other than the price of the good influence the quantity supplied and shift the supply curve to the right (increase in supply) or to the left (decrease in supply).[106] The most important of the influences to lead to an increase in supply are falling market prices for inputs and advances in production technology. On the contrary, a decrease in supply can be due to negative expectations of sellers for the future or a falling number of suppliers in the market.[107]

Now that both sides of the market have been introduced, the next subsection will present the concept of equilibrium in competitive markets.

[104] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 99.
[105] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 73.
[106] Ibid, 53.
[107] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 75-76.

2. *Equilibrium in competitive markets*

Demand and supply combined determine the price and the quantity of a commodity sold in the market.[108] The price at which the quantity demanded equals the quantity supplied marks the market equilibrium:

$$D(p) = S(p).$$[109]

In the graphical representation, this point is found at the intersection of both curves:

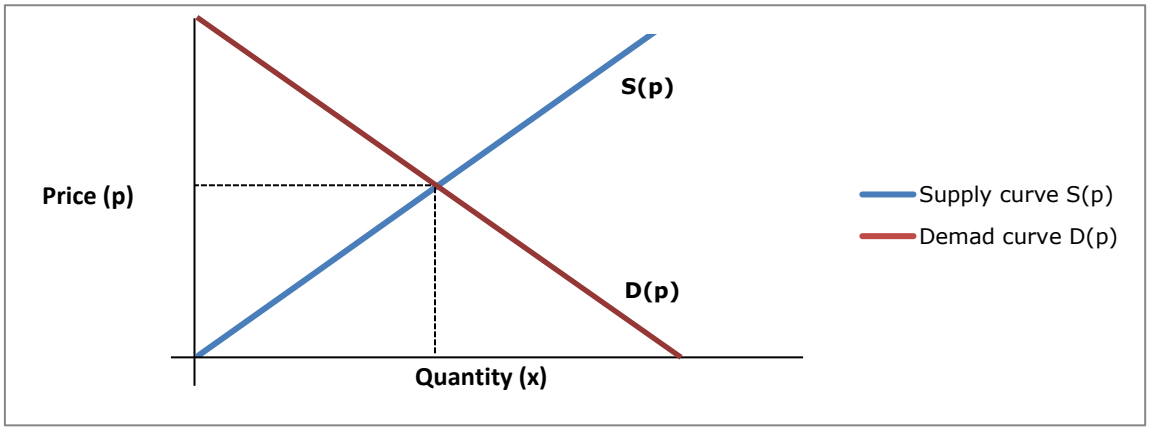

Figure 3: Market equilibrium

In this situation, "the quantity of the good that buyers are willing and able to buy exactly balances the quantity that sellers are willing and able to sell".[110] Any quantity traded below or above the equilibrium quantity would result in a shortage (excess demand) or a surplus (excess supply). In reaction to this situation, the price would have to change; a new equilibrium results.[111] Therefore, markets have an inherent tendency to equilibrium.[112] Put differently in the words of Adam Smith: The joint action of consumers and producers directed by market prices leads them to a welfare-maximizing equilibrium, as if an invisible hand was guiding them.[113]

Yet, the above insights about the self-regulating nature of the marketplace only hold for competitive markets. Markets are characterized as perfectly competitive, if they fulfill the following conditions:

- An infinite number of buyers and sellers is trading in the market,

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[108] Ibid, 77.
[109] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 289.
[110] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 77.
[111] So-called law of supply and demand. See ibid, 77-78.
[112] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 290.
[113] Adam Smith, *The Theory of Moral Sentiments* (London: A. Millar, 1790), Part IV, Chapter I Paragraph 10.

- a homogenous product is traded,
- there are no barriers to entry and exit,
- perfect information is assumed, and
- buyers and sellers face zero transaction costs.[114]

The above assumptions for competitive markets need a little further explanation. Most importantly, in competitive markets both, buyers and sellers, act as "price takers", thus no single buyer or seller has any influence on the market price.[115] Goods traded are homogenous, therefore, customers can substitute the products across suppliers. The assumption of lacking entry and exit barriers, e.g. legal hurdles or a high investment to start the business, assures that new suppliers can enter the market at all times, which acts as a deterrent for the existing suppliers in the market to raise prices by collusive agreements. Perfect information describes a situation where prices and the quality of the products are known to all customers and producers. This does not mean, however, that every market participant possesses *all* information. It is sufficient, if market participants possess the information *relevant* to their optimization problems. Eventually, the zero transaction costs assumption ensures that all beneficial transactions take place.

Most real-world markets, however, do not satisfy these assumptions. Harold Demsetz is touching on that issue in his 1969 paper on a "nirvana approach" in the economic science. He points out that there would rather have to be a choice between "alternative real institution arrangements" instead of the actual focus on comparisons of the reals world with a non-existent ideal of a textbook perfectly competitive market ("nirvana").[116] Neither in theoretical analysis, nor in practical policy may following an unreachable end be a guiding principle. Therefore, in this paper, the model of a perfectly competitive market is used solely as a benchmark. The deviations of all market situations and corrective regulatory approaches from the "nirvana market" are compared with each other to reveal the closest approximation to the theoretical model of an optimal market. In this sense, this work is following the comparative institution approach proposed by Demsetz.

The question why the model of perfectly competitive markets is considered to be the ideal standard still has to be answered. Using the concept of allocative efficiency introduced in

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[114] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 148.
[115] Ibid.
[116] Harold Demsetz, „Information and Efficiency: Another Viewpoint", *Journal of Law and Economics* Vol. 12, no. 1 (1969), 1.

the precedent section[117], the superiority of competitive markets from the welfare standpoint can be demonstrated convincingly.

The rational decision maker model and the assumption of methodological individualism predict that buyers would only purchase goods whose utility – u(x) – exceeds or at least equals the price they pay (p_x):

$$u(x) \geq p_x.$$

Though, the utility u(x) that a particular good has to a customer differs between the number of units consumed and among individuals, whereas the price paid is the same for each unit and each customer.[118] Consequently, the above equation can be rewritten as

$$u(x) = p_x + s_c(x),$$

where $s_c(x)$ is the utility that exceeds the price paid for the individual customer. Rearranging terms gives

$$s_c(x) = u(x) - p_x$$[119]

for the individual consumer surplus. In other words: The consumer pays less for a particular good than his maximal willingness to pay would allow.[120] Thereby, he retains money back for other uses.[121] Aggregation of the individual consumer´s surplus for the whole of market demand yields the consumers´ surplus from trade in a particular product market[122], with i denominating the individual customer and n the number of all customers in the market:

$$S_c(x) = \sum_{i=1}^{n} s_{ci}(x)$$

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[117] See paragraph C.II.3.b) of this chapter.
[118] So-called law of diminishing utility. See Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 96.
[119] See for an analog formal derivation of consumer surplus Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 248-250.
[120] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 139.
[121] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 249.
[122] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 140.

The context becomes even clearer in the graphical representation:

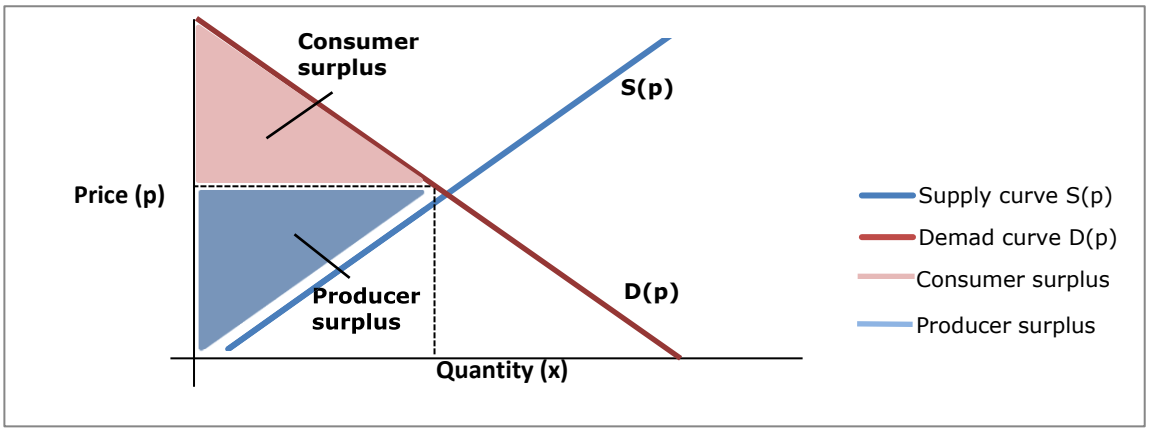

Figure 4: Consumer surplus and producer surplus

The geometrical interpretation is straightforward: For the market as a whole, the area between demand curve and price depicts the consumer surplus.[123] Also, it can be seen that an increase of consumer surplus is the result of a drop in price.[124]

As figure 4 already indicates, there is a similar surplus for the group of producers, the so-called producer surplus. The axioms of rational choice theory and the assumption that producers try to maximize profit, and do not act for reasons of benevolence in the market[125] suggest, that a product is sold in the market if, and only if the price equals or exceeds the cost of production c(x):

$$p_x \geq c(x).$$

Since producers face different costs of production, some of them are paid more for the sale of their commodity than their reservation price. This gain is called producer surplus.[126] Producer surplus ($s_p(x)$) results from any amount the seller is paid for his good that exceeds the cost of provision of the good.[127] Formally, this can be written as

$$p_x = c(x) + s_p(x).$$

After rearranging, the producer surplus is defined as:

$$s_p(x) = p_x - c(x).$$

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[123] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 250.
[124] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 140-141.
[125] This important insight was already introduced by Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (London: Methuen & Co., Ltd., 1776), Book I, Chapter 2, Paragraph 2. He shaped the famous sentence that "It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest.".
[126] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 260.
[127] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 143.

By analogy to the consumer surplus, the aggregation of all individual gains yields the producers´ surplus in the market:[128]

$$S_p(x) = \sum_{i=1}^{n} s_{pi}(x)$$

As depicted in figure 4, the area between the equilibrium price line and the supply curve measures the producer surplus in a market.[129] Similarly to the above analysis, this surplus can be increased by raising the price of the good.[130]

Both, consumers´ and producers´ surplus add up to economic surplus.[131] In the formal description, this can be written as

$$S_e(x) = S_c(x) + S_p(x).$$

With the substitution for the variables $S_c(x)$ and $S_p(x)$ we obtain

$$S_e(x) = [u(x) - p_x] + [p_x - c(x)],$$

and after summing up and rearranging terms

$$S_e(x) = u(x) - c(x)^{132}$$

for the economic surplus. Thus, the economic surplus is the difference between the value of the good to the buyer and the cost of production the seller faces. This property makes the economic surplus a measure for the welfare in the economy. Under the condition of a perfectly competitive market, welfare is maximized. As shown in figure 4, there is no alternative allocation of resources that would increase consumers´ or producers´ surplus without lowering the other group´s surplus or the total quantity traded in the market.[133] More precisely, free markets allocate resources in such a way that

- the supply of goods is directed towards the buyers who have the highest valuation for them, based on their willingness to pay,
- the demand for goods is directed to the sellers who can produce goods at cheapest cost, and

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[128] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 159.
[129] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 159.
[130] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 145.
[131] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 159.
[132] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 147.
[133] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 159.

- the quantity of goods produced maximizes economic surplus.[134]

One last question that remains to be answered in this general economic introduction is the rationale for profit-maximizing companies in setting the sale price of their product. Since the equilibrium price is found by the forces of demand and supply, how would a rational producer price its product to maximize profit?

In studying the profit-maximization problem of a firm in a competitive environment, we assume that this firm faces fixed prices for the factors of production.[135] Furthermore it is assumed, that it acts for the purpose of realizing as much profit as possible, where profit (Π) is defined as total revenue (R) from sale of the products minus total cost of production (C):

$$\Pi = R - C.^{136}$$

Continuing, revenue is defined as the amount a firm is paid for the sale of its products:

$$R = p \cdot x^{137},$$

and cost relates to the market value of the inputs used in production:

$$C = c_f + c_v(x),$$

in which we distinguish fixed cost (c_f) that occur independently of the quantity produced and variable cost ($c_v(x)$) that depends on the number of units manufactured.[138] Summing up, the profit function of the firm can be written as

$$\Pi = p \cdot x - [c_f + c_v(x)].^{139}$$

Since it has been assumed above that the firm maximizes profit, the maximum of this equation needs to be determined. Mathematically, a maximization problem is solved by calculating the first derivative of the profit function and setting it equal to zero[140]:

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[134] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 149.

[135] And, by assumption in the model of a perfectly competitive market, the firm does also face fixed prices for ist output since it acts as a price taker. See Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 334.

[136] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 268.

[137] Ibid.

[138] Ibid. For the distinction between fixed and variable costs see Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 339.

[139] Similar Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 335.

[140] For the mathematical background of this reasoning see for example Carl P. Simon, *Mathematics for Economists* (New York: Norton & Company, 1994), 62-64.

$$\frac{d\pi}{dx} = p - \frac{dc}{dx} = 0$$

After rearranging terms, one obtains the necessary condition for maximum profit in competitive markets:

$$p = \frac{dc}{dx}.$$[141]

The important insight from this analysis can be summarized as follows: For a profit-maximizing firm in a competitive market, the best choice is to set its price equal to the marginal cost of production ($\frac{dc}{dx}$ in the term above), which is the cost of the production of an additional unit of the good.[142] A more intuitive explanation of the profit-maximizing condition is offered by the following easily interpreted graphic image:

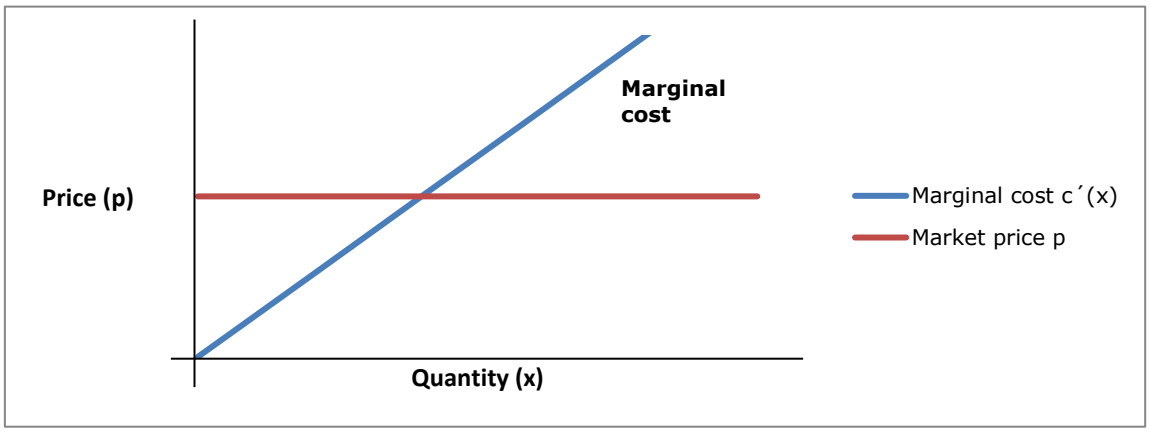

Figure 5: Profit-maximization for firms in competitive markets

For any price p above the marginal cost of production, the firm can increase its profit by expanding its production. Likewise, any price below the marginal cost of production reduces the firm´s profit.[143] Consequently, the firm will expand its production until the point where the marginal cost curve (blue) intersects with the price curve (red) and thereby maximize profit.

With this central understanding of profit-maximizing reasoning, this section concludes. The next subsection will introduce the structure and market participants´ reasoning in imperfectly competitive markets to complete the economic introduction and achieve an understanding for the imperfectly competitive energy market.

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[141] A less formal derivation can be found in Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 155.
[142] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 276, 294.
[143] Note that the market price equals marginal revenue since the first derivative of the revenue function with respect to x yields dR/dx = p.

3. Economics of concentration

Perfectly competitive markets are rare in the world outside economic textbooks. Therefore, economic theory did early on develop models of markets that fail to produce the socially optimal output. The contents of this subsection is limited to the case of market power, which is the only market failure relevant to the analysis of price manipulation at the energy market. First, the extreme case of only one supplier in the market (monopoly)[144] is introduced to provide a basis for the understanding of the related case of oligopoly.

a) Pricing behavior and social welfare in monopolized markets

Other than in competitive markets, a monopoly firm does not have to act like a price taker. On the contrary, its decisions on output have influence on the price for the good. The reason is that customers have no chance to substitute the product of the monopolist for a cheaper one offered by an alternative producer since by definition there are no other producers in the monopolized market.[145] Of course, the monopolist´s power to choose the price is not unlimited, but constrained by the demand behavior of the customers.[146] However, the following analysis will reveal that the profit-maximizing monopolist chooses a price that differs from the one observed in competitive markets.

The monopolist faces, other than firms in a competitive environment, the complete market demand curve.[147] This is best expressed by an inverse demand function p(x), where the price (p) depends on the quantity of output (x). Furthermore, the monopolist incurs some cost of production also depending on the quantity x: c(x). The resulting revenue function takes therefore the shape

$$R(x) = p(x) \cdot x,$$

expressing that the revenue results from the quantity of units sold (x) times the price per unit (p(x)).

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[144] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 423.
[145] Ibid, 444.
[146] Ibid, 423.
[147] Competitive firms face a demand curve in the shape of a horizontal line because they can sell an unlimited quantity of the product at the given market price. For this case and the different one of monopoly firms see: N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 315.

Consequently, the maximization problem refers to the corresponding profit function, where profit results from the subtraction of cost of production from the revenue from the sale of the product:

$$\Pi(x) = R(x) - c(x).$$

Insertion of the above defined variables for R(x) results in

$$\Pi(x) = p(x) \cdot x - c(x).$$

As introduced above, the first-order condition for a profit maximum is found by deriving Π with regard to x and equating the term to zero:

$$\frac{d\pi}{dx} = \frac{dp}{dx} \cdot x + p(x) - \frac{dc}{dx} = 0$$

Rearranging terms yields the profit-maximizing condition for monopoly output:

$$\frac{dp}{dx}x + p(x) = \frac{dc}{dx}.$$[148]

This term shows that the monopolist maximizes profit by choosing an output level where marginal revenue from the sale of an additional unit equals marginal cost of the production of this unit.[149] Having said this, the conclusion for the price level under monopoly is straightforward: While price equals marginal cost in competitive markets, price exceeds marginal cost in a monopoly market.[150] The magnitude of the price difference depends most notably on the elasticity of demand: The price-cost margin increases with a lower elasticity of demand and vice versa.[151]

This finding has considerable consequences for social welfare. In detail, there are three main inefficiencies stemming from monopoly pricing:

- Allocative inefficiencies,
- productive inefficiencies, and
- dynamic inefficiencies.

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[148] A similar derivation of the monopoly pricing rationale can be found in: Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 424.
[149] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 155.
[150] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 320.
[151] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 43.

Allocative inefficiency can be derived by a comparison of social welfare produced in the benchmark model of perfectly competitive markets with the social welfare under monopoly. From the law of demand we know that an increase of the market price causes the quantity demanded to decrease.[152] In other words: Customers with a willingness to pay for the product higher than the cost of production are not served in the monopoly case, whereas they would be in a competitive market environment; economic surplus decreases.[153] This loss of social welfare is best illustrated in the following graphic, where the loss of economic surplus from both losses of consumers´ surplus and producers´ surplus is depicted.

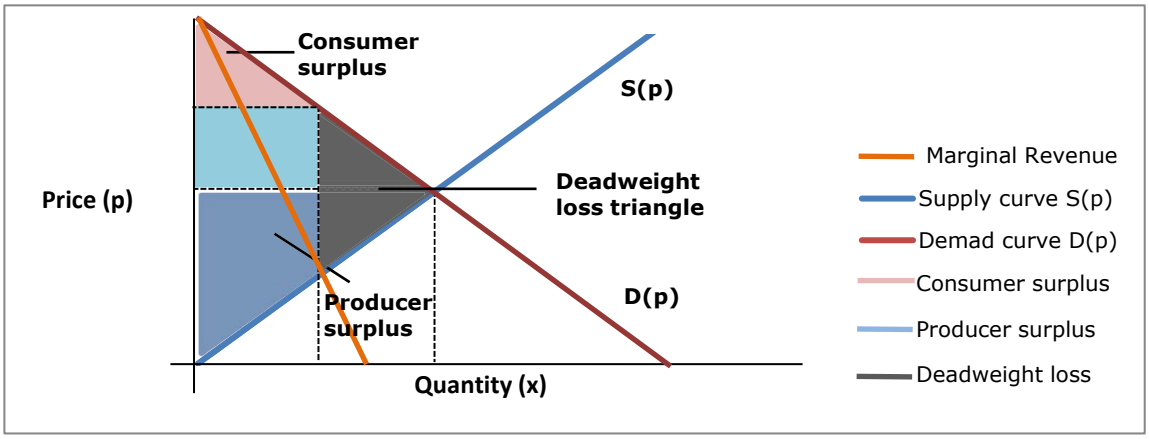

Figure 6: Welfare loss from monopoly

From figure 6 it is well to be seen that the monopolist´s pricing rationale increases the price, such that output decreases simultaneously. As a result, consumer surplus shrinks in favor of a gain of producer surplus. This event constitutes a pure transfer of wealth from the consumers to the producers.[154] Yet, beyond this transfer, there is a true welfare loss from the inefficiently low quantity of output. This decrease of value from the lower output level due to monopoly pricing is called "deadweight loss".[155]

A second aspect of allocative inefficiency with regard to monopoly has first been discussed in Gordon Tullocks 1967 article on the cost of monopolies[156]: He suggested, that the focusing of the economic science on the deadweight loss was completely ignoring a much bigger allocative problem of monopoly, which is what was later named the "rent seeking

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[152] See paragraph D.I.1.a) of this chapter.
[153] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 323.
[154] Ibid, 325.
[155] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 433.
[156] Gordon Tullock, "The Welfare Costs of Tariffs, Monopolies, and Theft", *Western Economic Journal* Vol. 5, no. 3 (1967), 224-232.

activities" of monopoly firms.[157] This is, firms start spending money to gain political influence and lobby in order to keep or increase their monopoly power[158] - instead of investing the money in more productive uses. This waste of resources enlarges the cost associated with monopoly.[159]

The second drawback monopolized markets cause is productive inefficiencies. This term describes the monopolies´ tendency to face higher cost of production than firms operating in competitive markets.[160] The additional welfare loss from the utilization of inefficient production technology is mainly due to the lack of competitive pressure, which would force the firm to use the best available technologies in order to keep the costs at a competitive level.[161] Apart from that, productive inefficiency stems from managerial shirking. Monopoly power is said to bring about managerial inefficiency because of lacking incentives for the managers to exhaust the whole of the firm´s scope in view of safe monopoly profits.[162]

Eventually, dynamic inefficiencies contribute to welfare losses from monopoly. Economic models of competition and innovation show that monopoly firms have less incentives to invest in research and development (R&D).[163] Innovation is materially triggered by the expectation to recover the investments made in R&D. The expectation of market power, therefore, exhibits a strong incentive to innovate. By contrast, monopoly firms already exercising market power have weaker inducement to invest considerable amounts of money in research projects with uncertain returns.[164]

All aspects considered there is serious evidence that monopolized industries harm social welfare and, as a result, are subject to various government regulation efforts. Oligopolized markets like the German energy industry treated in this work face similar regulatory problems. The next subsection therefore presents the case in between the two extremes of perfectly competitive markets and monopoly: Market structures named oligopoly with a limited number of suppliers bigger than one, but small enough to leave individual firms some room to exert influence on the market price.[165]

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[157] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 44.
[158] Gordon Tullock, "The Welfare Costs of Tariffs, Monopolies, and Theft", *Western Economic Journal* Vol. 5, no. 3 (1967), 228.
[159] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 44.
[160] Ibid, 45.
[161] This is somehow a Darwinian selection argument, since in the presence of competition, only efficient firms survive. For a more in-depth analysis and empirical evidence see ibid, 46.
[162] This argument is best understood in the context of corporate governance theory and the so-called principal-agent models that highlight the conflict between manager and shareholder interests. See ibid, 47.
[163] Ibid, 58.
[164] Ibid, 55.
[165] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 480.

b) Pricing behavior and social welfare in oligopoly markets

Also in oligopoly markets, prices tend to exceed the costs of production, resulting in welfare losses for the economy.[166] Whether and how much prices deviate from the competitive benchmark depends not only on the elasticity of demand as discussed for the monopoly case[167], but also on how successful firms are in maintaining a collusive pricing strategy.[168] This is due to the fact that in an oligopoly, the market price and as a consequence the firm´s profit does not only depend on the production decision of a single firm, but also of the other firms in the market.[169] This constellation requires strategic interactions between the firms in the market.[170]

From a profit maximizing point of view, the oligopoly firms would prefer to act the same way a monopolist does and produce the monopoly output in order to share it between the colluding companies.[171] Yet, oligopoly firms face some obstacles in trying to achieve a collusive agreement to act like a monopoly, the most important of which are

- the cost of detection, since collusion is illegal in most legislations, and
- the incentive to cheat on the agreement among oligopolists in order to make an extra profit by undercutting the oligopoly price.[172]

Without going into the details, some of the factors favoring collusion shall be named here. Those ones being of further importance to the manipulations in the energy market will be discussed in-depth in the chapters devoted to the analysis of the industrial organization of the German electricity market and the considerations on antitrust regulation opportunities.[173] For the purpose of a first overview, important structural factors facilitating collusive agreements are as follows:[174]

- Highly concentrated markets[175],

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[166] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 138.
[167] See section D.I.3.a) of this chapter.
[168] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 188.
[169] N. Gregory Mankiw, *Principles of Economics* (Mason: South-Western Cengage Learning, 2008), 366.
[170] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 480.
[171] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 187.
[172] Ibid, 188.
[173] Issues of industrial organization in the electricity market are discussed in the second chapter in section D. For the regulatory measures, please refer to the fourth chapter of this work.
[174] The structural factors are based on the enumeration in Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 142-149.
[175] A common measure of market concentration is the Herfindahl-Hirschmann Index. In competition analysis, values exceeding 1,800 indicate highly concentrated markets. See Paul A. Samuelson and William D. Nordhaus, *Economics*, 18th ed. (Singapore: McGraw-Hill, 2005), 185.

- high barriers of entry,
- cross-ownership and other links among competitors,
- regularity and frequency of orders,
- the lack of buyer power on the demand side,
- a sudden massive increase of demand,
- product homogeneity,
- symmetry between firms,
- firms meeting in more than one market (multi-market contracts), and
- inventories and excess capacities.

In conclusion, oligopoly may mean as much of a threat to social welfare as monopoly does. However, firms face significantly more obstacles in achieving and maintaining collusive prices than a monopolist does. Yet, market structures with oligopolistic characteristics are much more common in real markets and in consequence much more relevant for industry analyses[176]. As the next section will show, this is also true for the German electricity market.

II. The German electricity market

The following paragraphs are supposed to give a short introduction on the features and structure of the primary market for power generation and the common channels of trade and distribution. The understanding of these basic market characteristics is key to the following treatment of manipulation strategies and their deterrence. In classifying the market for power generation in economic terms, I will revert to the basic economic models of competition developed in the preceding section. The first subparagraph starts off with a short historical survey of the development of the German electricity market. Thereafter, subsection two treats the specific features of electricity as a product. Subsequently, the existing power plants and the process of power generation are examined from an economic point of view in the third subsection, including an introduction to electricity trading both

[176] Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 480.

at stock exchanges and Over-the-Counter (OTC). Subsection four treats the process of formation of prices in the energy market.[177]

1. The historical development of the German electricity market

Until the liberalization in 1998, the German electricity market was organized as a natural monopoly[178].[179] The underlying assumption was that companies in the power business – due to high capital investments especially in grids – could only ensure reliable and cheap power supply if they were not facing competitive pressure.[180] As a result, power was purchased from a small number of suppliers based on long-term contracts and retailed to the customers in the particular supply areas.[181] The territorial monopolies were protected with two contractual agreements: The concession contract between the municipality and the energy supplier to guarantee the exclusive right to build grids in the area and reciprocal demarcation contracts with other energy suppliers which were guaranteeing them territorial monopolies for energy supply.[182]

In 1998, regulatory policy had come to the conclusion that a competitive market structure was possible for the fields of power generation, power trading and distribution.[183] Only on-grid transportation of electricity was further considered a natural monopoly.[184] The end of the deregulation efforts was evident: A competitive structure of the energy market was intended in order to increase efficiency in power generation and distribution with the final aim of driving the price down.[185] Long-term supply contracts were negotiated anew, network access for third-party suppliers was introduced, and a huge number of competitors

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[177] This structure is based on the treatment of the German electricity market in the FCO sector inquiry on power generation. See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 2.

[178] A natural monopoly is a market situation where the production of the market output is only efficient when carried out by a single firm. This situation is due to economies of scale, which is the existence of huge fixed costs and small marginal cost, resulting in marginal cost pricing resulting in losses. See Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 171-172.

[179] Peter Becker, *Aufstieg und Krise der deutschen Stromkonzerne: Zugleich ein Beitrag zur Entwicklung des Energierechts* (Bochum: Ponte Press, 2010), 78.

[180] Wolfgang Gerke, Marc Hennies, and Daniel Schäffner, *Der Stromhandel. Grundlagen, Profile, Perspektiven* (Frankfurt am Main: F.A.Z.-Institut, 2000), 15.

[181] Georg Erdmann, "War die Strommarkt-Liberalisierung in Deutschland bisher ein Flop?", *ZfE* Vol. 32, no. 3 (2008), 197.

[182] Jörg Fried, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 162-163.

[183] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 40.

[184] See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 37.

[185] See ibid.

entered the market of energy production, trade and distribution.[186] Yet, liberalization efforts did not yield the expected effects, instead, prices for energy climbed to higher levels steadily.[187] Part of this price increase was due to higher taxes and government charges.[188] However, there is justified concern that the increasing prices had other causes besides public charges.

The following overview of the German electricity market after the liberalization will give a first impression why the introduction of competition is facing so many problems and there is persistent danger of market manipulations.

2. Specific features of the good "electricity"

To begin with, the good "electricity" possesses some features that differ from other commodities traded in markets, which might influence the market outcome. The characteristics that will be discussed subsequently can be summarized as follows:

- There is no noteworthy and common technology to store electric current after its production.[189]
- Variation of quality in electricity grids is not possible (homogenous product).[190]
- Electricity is a grid-bound product.[191]

First, the lacking property of storability deprives energy suppliers of the option to produce ahead. In addition, electric grids require a stable voltage at all times, therefore, feeding into the power grid and extractions from the grid do always have to match. In economic terms this implies, that demand and supply do have to be in exact equilibrium at all times[192]. Yet, demand for power is subject to huge intraday and seasonal fluctuations. With lacking options to produce ahead, load control of the grids is only possible through

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[186] Georg Erdmann, "War die Strommarkt-Liberalisierung in Deutschland bisher ein Flop?", *ZfE* Vol. 32, no. 3 (2008), 197.
[187] Axel Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht", *ZHR* Vol. 172 (2008), 548. Also Georg Erdmann, "War die Strommarkt-Liberalisierung in Deutschland bisher ein Flop?", *ZfE* Vol. 32, no. 3 (2008), 198. Federal Network Agency, Monitoringbericht 2010, 35.
[188] See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 37.
[189] Ibid, 38. With regard to recent developments in this field refer to e.g. Hans Heller, "Optimierung der energierechtlichen Rahmenbedingungen durch den Einsatz moderner Stromspeichertechnologie," *EWeRK* Vol. 13, no. 4 (2013), 177 et sqq.
[190] Georg Erdmann and Peter Zweifel, *Energieökonomik: Theorie und Anwendungen* (Berlin: Springer-Verlag, 2008), 295.
[191] Wolfgang Gerke, Marc Hennies, and Daniel Schäffner, *Der Stromhandel. Grundlagen, Profile, Perspektiven* (Frankfurt am Main: F.A.Z.-Institut, 2000), 13.
[192] Ingo Hensing, Wolfgang Pfaffenberger, and Wolfgang Ströbele, *Energiewirtschaft: Einführung in Theorie und Politik* (München: R. Oldenburg Verlag, 1998), 112.

management of demand and supply. In absence of observable quality features of electricity, management of demand for this homogenous good is possible only with regard to the price.[193] Based on the economic principles presented in the previous section, one would expect a rise in prices in times of high demand and a price drop at low demand periods, e.g. in summer. Yet, this demand-driven price signal would require metering not only of the aggregate consumption of a customer, but of the time-related electricity extraction.[194] Although there has been some effort to introduce smart metering recently, this technology is not yet common for households.[195] As a consequence, load management in the German electricity market is mainly supply-based. Short-term matching of demand and supply is, metaphorically speaking, regulated by turning on and off power plants.[196] As a consequence, the decision about the quantity produced (hence the supply side of the market) determines the price for electricity.

Second, electricity being a grid-bound product brings about deviations from other product markets. The German distribution network is, depending on the voltage level, divided in four categories reaching from grids for long-distance transport to dispersion grids.[197] The direction of the electricity flow in the network is determined by the laws of physics. Therefore, neither producer nor consumer can decide about the way the current takes once supplied with. Also, suppliers cannot direct current produced in their plant to a particular customer. Instead, the delivery of electricity corresponds to the simultaneous feeding and extraction of current by several suppliers and customers.[198] For this reason, electricity is, other than ordinary commodities, traded in the shape of purchase warrants that entitle the buyer to a specified extraction from the network.[199]

Having shown the features of electricity, the analysis now turns to a brief description of the process of energy generation.

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[193] Georg Erdmann and Peter Zweifel, *Energieökonomik: Theorie und Anwendungen* (Berlin: Springer-Verlag, 2008), 295.
[194] Ibid.
[195] Peter Heuell, "In kleinen Schritten zum Smart Grid", *et* Vol. 61, no. 9 (2011), 44. Also Oliver D. Doleski, "Handlungsbedarf versus Abwartetaktik: Quo vadis, Smart Grid?", *et* Vol. 61, no. 9 (2011), 47.
[196] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2011), 121.
[197] Georg Erdmann and Peter Zweifel, *Energieökonomik: Theorie und Anwendungen* (Berlin: Springer-Verlag, 2008), 295.
[198] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 122.
[199] Ibid.

3. Fundamentals of power generation and distribution

The structure of the energy market is best described with the three-stage theory of the power industry. In this view, the market for power consists of three vertically connected stages: Power generation, power distribution, and end consumer stage.[200]

This structure is best illustrated with the following figure:[201]

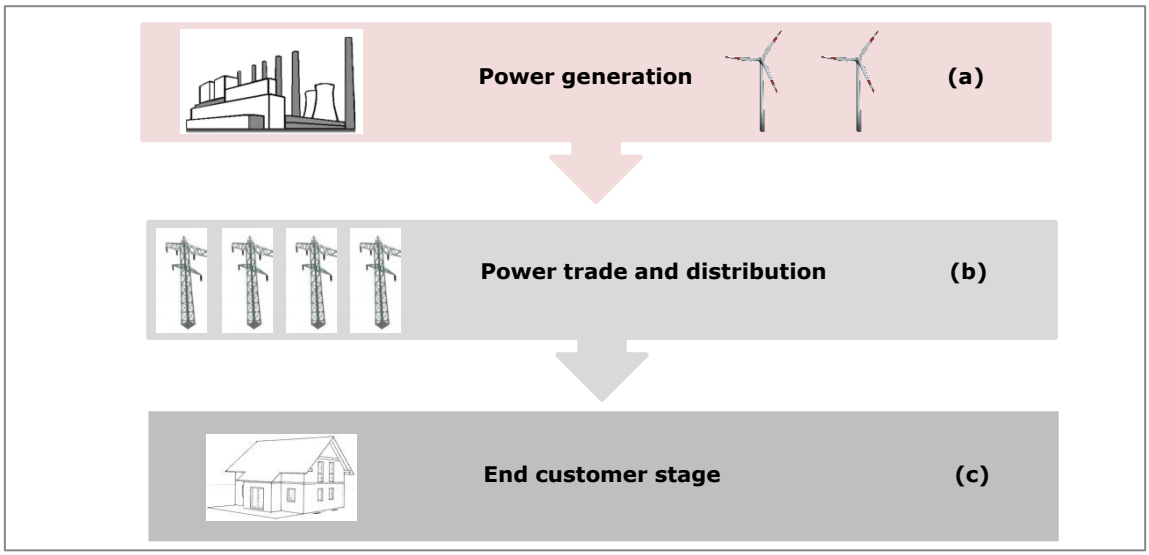

Figure 7: Structure of the German power market

a) The market for power generation

In the process of power generation, primary energy (e.g. fossil fuels, uranium, or renewable energies) is transformed into secondary energy (electricity) in a specified technical process.[202] The power generation stage, therefore, comprises all energy suppliers that possess their own production facilities.[203] In Germany, the lion´s share of power generation is in the hands of the four huge vertically integrated suppliers E.ON, RWE, EnBW, and Vattenfall.[204] Together, these companies possessed 84 percent of the power generation facilities in Germany in 2008.[205] Today, they still control 62 percent of the production

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[200] Thomas Niedrig, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 4.
[201] Based on Ingo Hensing, Wolfgang Pfaffenberger, and Wolfgang Ströbele, *Energiewirtschaft: Einführung in Theorie und Politik* (München: R. Oldenburg Verlag, 1998), 112.
[202] Ibid, 111.
[203] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 122. Refer also to Sandro Gleave, "Marktabgrenzung und Marktbeherrschung auf Elektrizitätsmärkten," *ZfE* Vol. 34, no. 2 (2010), 102.
[204] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 122.
[205] The number dates back to the year 2008. See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 90. In the following years, some of the production facilities have been

capacity.[206] Apart from the "big four", there are a huge number of municipal energy suppliers and independent power plant operators in the market.[207] Despite their predominance in numbers, this group of producers has only a relatively small share in covering the daily demand for electricity. Finally, there is some import and export of electricity to and from Germany. The net import of the quantities exchanged with the neighboring countries contributes to the supply of the quantity needed on the German market.[208]

The above-described transformation process from primary to secondary energy is realized with a variety of different types of plants using different inputs, and, as a consequence, facing different costs of production. Hence, although electricity appears to be a homogenous good from the point of view of the demand side, it is, in fact, quite divers. Most roughly, the existing types of power plants are differentiated based on their economic and technical characteristics:

- Base load power generation plants,
- intermediate power generation plants, and
- peak load power generation plants.[209]

From an economic point of view, the plant types differ with regard to fixed and variable costs of production. Fixed cost mainly consists of capital cost, maintenance cost and labor costs. By contrast, short-term variable cost is predominantly determined by the prices of inputs, thus the primary energies each plant type uses.[210] On a competitive market for power generation, the amount of variable cost a plant requires for the production of one megawatt hour of electricity therefore decides whether it is turned on to satisfy the actual demand for electricity.[211]

Base load power generation plants are generally well suited to produce electricity steadily at a relatively low variable cost. Therefore, this plant type is used for the constant feed of the network and only turned off for the purpose of technical revisions. A flexible operation

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sold, but the named companies are still the most important producers of electric energy for the German market.

[206] Monopoly Commission, Sondergutachten 71 - Energie 2015: Ein wettbewerbliches Marktdesign für die Energiewende, 2015, 34-36 Ref. 55.

[207] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 122.

[208] Ibid.

[209] Georg Erdmann and Peter Zweifel, *Energieökonomik: Theorie und Anwendungen* (Berlin: Springer-Verlag, 2008), 302.

[210] Monopoly Commission, Sondergutachten 54 – Strom und Gas 2009: Energiemärkte im Spannungsfeld von Politik und Wettbewerb, 47. Besides the cost of primary sources of energy, plant operation faces variable costs for means of production, CO_2 emission costs and costs stemming from the process of staring-up and turning down a plant. For a detailed analysis of the variable cost of different types of power plants, refer to Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 161-195.

[211] This mechanism will be examined in-depth in the section on price formation.

is only possible to a limited extent. Typical base load power generation plants in the German generation system are plants using brown coal or uranium as primary source of energy.[212]

Intermediate power generation plants are mainly used to cover long-term fluctuations of demand because of their better suitability for the flexible operation mode. The production of a megawatt hour of electricity induces a higher variable cost compared to base load plants, though. Most typically, intermediate power plants are based on fossil fuel inputs like coal and gas, but also combined-cycle plants.[213]

Peak load power generation plants are only turned on in times of extremely high demand. Their advantage is the high flexibility in the operation mode, which is however accompanied by a high amount of variable cost. Typical exponents of this plant type are gas turbine power stations and reservoir power stations.[214]

With regard to the different types of producers, a variance of power plant mixes is observed in the market. Whereas the huge four companies possess a well-diversified mix of plants suited for the production of both, base and peak load electricity, the group of municipal energy suppliers and independent power plant operators does typically only have particular plants suited for either base or peak load production.[215] As will be shown later, this disproportionate distribution of power production capacity influences the behavior of the suppliers and thereby the market outcome.

[212] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 40.
[213] Ibid.
[214] Georg Erdmann and Peter Zweifel, *Energieökonomik: Theorie und Anwendungen* (Berlin: Springer-Verlag, 2008), 301.
[215] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 122.

The following graphic image illustrates the different variable costs and the corresponding use of the different types of plants:[216]

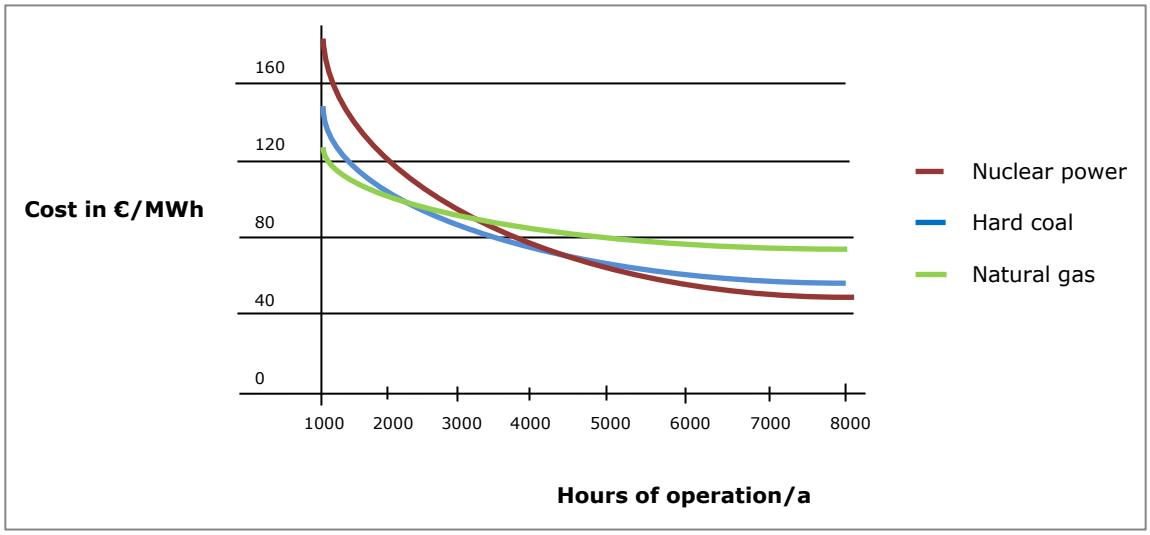

Figure 8: Variable cost for different types of power plants

b) Trade and distribution of electricity

The second stage in the power market is distribution. All companies trading, selling, or buying electricity not intended for their own belong at this stage.[217] In Germany, this is regional energy supply companies, municipal energy suppliers, and of course the four vertically integrated producers. Furthermore, there are banks and specialized energy traders involved in the futures market at the energy exchange. Firms on this stage maximize their profit through trade with electricity; the end use of the product is of no relevance to them.[218]

After the cancelation of the long-term power supply contracts with the liberalization 1998, two different types of wholesale markets for power trading emerged.[219] On the one hand, parties were contracting bilaterally via brokers or electronic trading platforms – a market segment which is known as over-the-counter trading (OTC).[220] Besides the OTC trading, energy exchanges emerged beginning in 2000 with the foundation of the Leipzig Power

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[216] The illustration was created based on Georg Erdmann and Peter Zweifel, *Energieökonomik: Theorie und Anwendungen* (Berlin: Springer-Verlag, 2008), 301.
[217] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 40.
[218] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 122-123.
[219] Jörg Borchert, Ralf Schemm, and Swen Korth, *Stromhandel. Institutionen, Marktmodelle, Pricing und Risikomanagement* (Stuttgart: Schäffer-Poeschel Verlag, 2006), 4-5, 8-17.
[220] Thomas Niedrig, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 17.

Exchange (LPX) and the European Energy Exchange (EEX).[221] Since the focus of this work is on energy exchanges, OTC trade will not be further examined at this point, even though traded volumes in the OTC market do by far exceed the volumes traded at exchanges.[222] However, prices found in the EEX auctions usually serve as reference prices for OTC contracts[223], which justifies the limitation of the inquiry on auction pricing[224].

In contrast to OTC, trade at the energy exchanges is highly regulated and well organized. This structure saves transaction costs for the participants through standardization and the assumption of the credit risk by the exchange ensures high liquidity of the market, and contributes to the formation of a transparent price for current.[225] The EEX, after a merger with the LPX in 2001[226], offers two market segments for trade in energy products[227]:

- The spot market (now part of the European Power Exchange (EPEX))[228], and
- the futures market.

The following chart gives an overview of the different products that are traded in the two market segments:

[221] Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 345-355.
[222] See Commission staff working document accompanying the communication from the European Commission. Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), COM(2006) 851 final, 127.
[223] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 88. See also Oliver Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 90-91.
[224] Axel Ockenfels, Veronika Grimm and Gregor Zoettl. "Strommarktdesign: Preisbildungsmechanismus im Auktionsverfahren für Stromstundenkontrakte an der EEX". Expertise for the European Energy Exchange. 2008, 4, 15.
[225] Scott Besley and Eugene F. Brigham, *Principles of Finance*, 2nd ed. (South-Western Thomson Learning, 2003), 63-64 and 91-93; Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 165-166 Ref. 3.34.
[226] Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 346.
[227] Spot and futures market do also offer trade in products other than current. This analysis will, however, only discuss trade in electricity products.
[228] After a cooperation with the French exchange Powernext in 2009, trades in the spot market are conducted by the EPEX Spot SE. See Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 346-347.

MARKET SEGMENT	TRADED PRODUCTS	PERFORMANCE	SUPPLY
Spot market (Germany, Austria, France, and Switzerland)	Day-ahead auctions for base and peak load (single hours or block contracts)	Physical	Max. two trading days after contracting
	Intraday trade	Physical	Same day
	Continuous trade (only France)	Physical	
Futures market	Phelix-Futures	Financial or physical	Months, quarters, years
	French-/German-Power-Futures	Financial or physical	
	Phelix options	Financial or physical	Months, quarters, years
OTC market	Electricity products		

Table 1: Products traded at the European Energy Exchange (EEX)

The spot market offers day-ahead auctions[229] for Germany, Austria, France and Switzerland. Furthermore, intraday trade is possible for Germany and France, as well as continuous trade for France. In contrast to the futures market, performance on the spot market is always physical, thus, current is actually delivered from the seller to the buyer. Energy traders and producers use this market to fulfill their delivery commitments in the short term.[230]

All contracts with performance later than two trading days after closing are offered at the futures market.[231] The periods for supply reach from weeks to years; quantity, quality, and point of delivery are standardized.[232] Performance in the futures market may either be physical or financial. This market segment mirrors the expectations of producers and

[229] Michael Ritzau and Lukas Schuffelen, in *Energiehandel in Europa: Öl, Gas, Strom, Derivate, Zertifikate*, ed. Ines Zenke and Ralf Schäfer, 3rd ed. (München: C.H. Beck, 2012), Sec. 5 Ref. 22.
[230] Jörg Borchert, Ralf Schemm, and Swen Korth, *Stromhandel. Institutionen, Marktmodelle, Pricing und Risikomanagement* (Stuttgart: Schäffer-Poeschel Verlag, 2006), 9. See also Marcel Malcher and Matthias Puffe, in *Preise und Preisgestaltung in der Energiewirtschaft*, ed. Ines Zenke, Stefan Wollschläger, and Jost Eder(Berlin: De Gruyter, 2015), 22 Ref. 35.
[231] Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 360.
[232] Wolfgang Gerke, Marc Hennies, and Daniel Schäffner, *Der Stromhandel. Grundlagen, Profile, Perspektiven* (Frankfurt am Main: F.A.Z.-Institut, 2000), 50-51.

consumers in the middle and long run.[233] On this account, participants may use these trades to guard against price fluctuations, realize arbitrage transactions, or speculation on future prices.[234] At this stage of the power market, trade with electricity does not only happen vertically between companies from different trade levels, but also horizontally.[235]

Predominantly, the exchange price is found in auctions. Exchange participants transfer excel sheets with bids containing quantity and price[236] for all 24 hours of the next day in spot auctions.[237] The energy exchange collects all bids until a certain point in time (for day-ahead auctions in Germany, 12:00 p.m.) and generates aggregated demand and supply curves from the bids of each hour.[238] The market-clearing price is found at the intersection of both curves.[239] The price is subject to various influences. Notably, the size of the market, the market structure, price volatility, distribution of risks, and the competitive situation on the electricity market may increase or decrease the price.[240] After completion of the auction, the EEX does in addition take care of clearing and settlement of the contracts.[241]

On the futures market, the price is not found in an auction, but through matching of bid and identically priced ask orders.[242] The relevant indices for the futures market are computed by the exchange as the arithmetic mean of the spot auction prices for 24 hours (Phelix base) and the 12 hours of the day (9 a.m. to 20 p.m., Phelix peak).[243]

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[233] Connect Energy Economics, Leitstudie Strommarkt: Arbeitspaket Optimierung des Strommarktdesigns, 2014, 41.

[234] Jörg Borchert, Ralf Schemm, and Swen Korth, *Stromhandel. Institutionen, Marktmodelle, Pricing und Risikomanagement* (Stuttgart: Schäffer-Poeschel Verlag, 2006), 11. Also Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 368.

[235] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 123.

[236] The price may range from -3000 to 3000 €/MWh. Also, bids independent of a price are possible.

[237] Marcel Malcher and Puffe, in Preise und Preisgestaltung in der Energiewirtschaft, ed. Zenke, Wollschläger, and Eder(Berlin: De Gruyter, 2015), 22 Ref. 36.

[238] Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 365.

[239] Marcel Malcher and Puffe, in Preise und Preisgestaltung in der Energiewirtschaft, ed. Zenke, Wollschläger, and Eder(Berlin: De Gruyter, 2015), 23 Ref. 38. For the economic rationale behind this price formation, please refer to section D.I. of this chapter.

[240] For these influences, please refer to the subsequent paragraph B. on strategies of market manipulation at the EEX.

[241] For details on this periphere system please refer to Wolfgang Gerke, Marc Hennies, and Daniel Schäffner, *Der Stromhandel. Grundlagen, Profile, Perspektiven* (Frankfurt am Main: F.A.Z.-Institut, 2000), 53-56.

[242] Jörg Borchert, Ralf Schemm, and Swen Korth, *Stromhandel. Institutionen, Marktmodelle, Pricing und Risikomanagement* (Stuttgart: Schäffer-Poeschel Verlag, 2006), 11.

[243] Thomas Pilgram, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 366.

c) The end customer stage

This stage describes the demand side of the power market. Households and industrial customers buy electricity from the companies on the distribution stage.[244] Due to the homogeneity of electricity, the price of a kilowatt hour (kWh) is the relevant variable for the customers´ decision-making.

4. Formation of electricity prices on the wholesale market

As the pricing mechanism on the distribution stage has already revealed, the market-clearing price at the exchange depends on demand and supply for current at any time of the day and in the future. An analysis of the exchange price, therefore, requires an examination of the structure of demand and supply for current.

a) The demand side of the market

The demand for electricity on the wholesale market is mainly spread over the following groups: traders, intermediaries and sales companies, huge industrial customers, and re-distributors.[245] This variegated group of consumers with their diverse needs and hourly fluctuating demand for current may exert influence on the market price. Yet, their demand is most of the time inelastic, their ability to react to increasing prices with smaller quantities demanded therefore limited.[246] The main driver of the market price, therefore, is the supply side.

b) The supply side of the market

Supply in the German wholesale market for electricity is heavily influenced by the competitive situation on the market for electricity production.[247] Therefore, production and wholesale market are examined together by consensus.[248] The production market was

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[244] Sandro Gleave, "Die Marktabgrenzung in der Elektrizitätswirtschaft", *ZfE* Vol. 32, no. 2 (2008), 123.
[245] Melanie Etten-Rüppel and Christoph Riechmann, *Stromwirtschaft. Ein Praxishandbuch*, 2nd ed., ed. Michael Bartsch, Andreas Röhling, Peter Salje, Ulrich Scholz (Köln: Carl Heymanns Verlag GmbH, 2008), 36.
[246] Ibid.
[247] Ibid.
[248] See for example Monopoly Commission, Sondergutachten 59 – Energie 2011: Wettbewerbsentwicklung mit Licht und Schatten, 166. For the legal perspective on the definition of the relevant market, see the second chapter of this work.

highly concentrated during the period of examination in the years 2006 to 2009. The Herfindahl-Hirschmann index (HHI) displayed values exceeding 1,800 on the basis of capacities and quantities.[249] Four huge suppliers provided the lion´s share of the quantity demanded.[250] In 2007 and 2008, most of the production capacity and notably the biggest plants were still owned by RWE AG, E.ON AG, EnBW AG, and Vattenfall Europe AG – 85 percent (2007) respectively 84 percent (2008).[251] In 2014, the number still fluctuated around 62 percent.[252] These numbers include shares on municipal energy suppliers owned by the four companies, and long-term buying options for production capacities in the market.[253]

In addition, the Federal Cartel Office used the Residual Supply Index (RSI)[254] to prove the market power individually for each of the four oligopoly firms. This concept is based on the proof of the demand side´s dependence from a certain supplier. Consequently, market power is to be affirmed if a single supplier is indispensable to satisfy the market demand as a whole ("pivotal supplier").[255] The authority concluded in its sector inquiry, that each of the four huge suppliers possessed individual market power in 2007 and probably also in 2008.[256] Recent numbers suggest that the situation is slightly changing. However, this development might not be permanent due to the ongoing closures of plant capacity in the generation market.[257]

From an economic point of view, therefore, a competitive pricing strategy is not profit-maximizing for the oligopoly firms.[258] Each of the four huge suppliers has a considerable influence on the wholesale price of current that might be exerted to impose a price above marginal cost.[259] This fact will have to be taken into account when discussing the equilibrium price in the next subsection.

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[249] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 90.
[250] In 2007, 86 percent of the electricity feeding into the general power grid was realized by the oligopoly suppliers, in 2008 it was still 85 percent. See ibid.
[251] Ibid, 45.
[252] Monopoly Commission, Sondergutachten 71 - Energie 2015: Ein wettbewerbliches Marktdesign für die Energiewende, 2015, 34-36 Ref. 55.
[253] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 45, 90.
[254] For a detailed discussion of the RSI based market power analysis, please refer to the second chapter, section B.II.1. of this work.
[255] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 45, 97-114.
[256] Ibid, 114.
[257] Monopoly Commission, Sondergutachten 71 - Energie 2015: Ein wettbewerbliches Marktdesign für die Energiewende, 2015, 50 Ref. 91.
[258] See section I. 3. a of this chapter for the economic derivation.
[259] Melanie Etten-Rüppel and Christoph Riechmann, *Stromwirtschaft. Ein Praxishandbuch*, 2nd ed., ed. Michael Bartsch, Andreas Röhling, Peter Salje, Ulrich Scholz (Köln: Carl Heymanns Verlag GmbH, 2008), 45.

c) The equilibrium price in the wholesale market

When analyzing price formation in the wholesale market for electricity, one has to take into account that only 26 percent of the price is influenced by competitive pricing in the sectors of production and sales. The main part of the end customer price consists of taxes, government charges, and regulated fees.[260] In a nutshell, the end customer price for electricity consists of the elements pictured in the following illustration:[261]

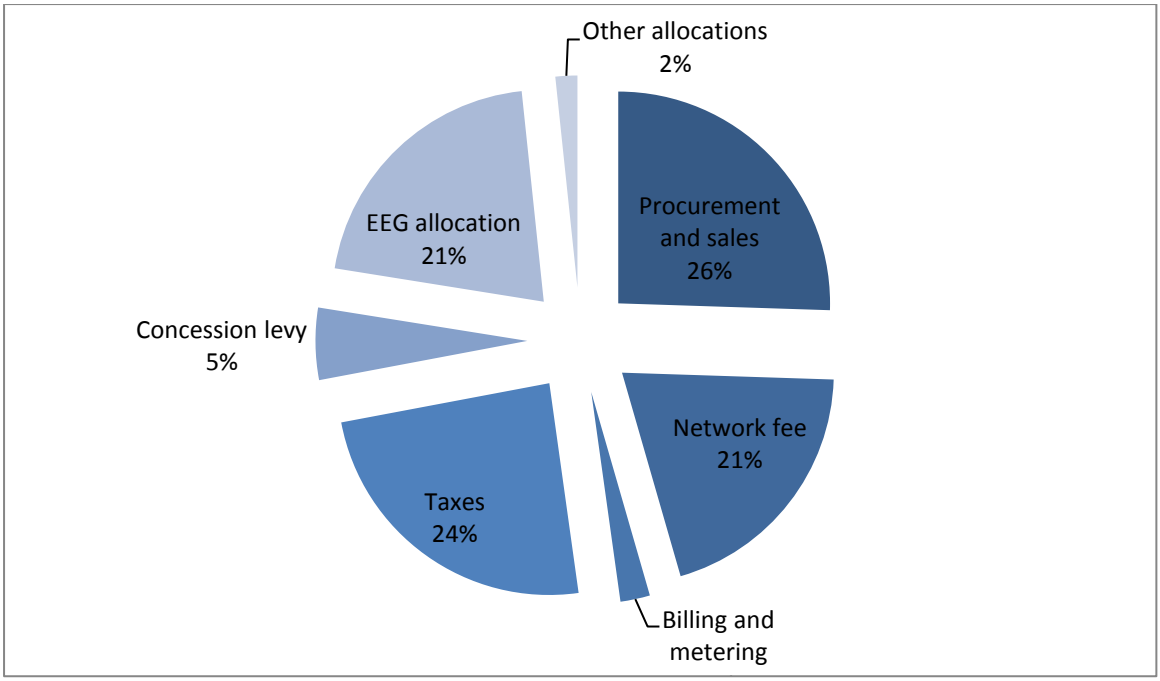

Figure 9: Elements of the end customer price for electricity

The 26 percent share of the price being subject to competitive pricing is found based on the short-run marginal costs of the suppliers in the merit order. This term describes the power plant operation in ascending order of their marginal cost.[262] In the short term, this marginal cost equals the variable cost of plant operation.[263] Based on the marginal cost of production (mainly fuel) on the supply side and (inelastic) demand for current, the graphical illustration shows distinctly, how the price in the merit order is found for each hour of the day.[264]

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[260] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 37-38.
[261] Taken from Federal Network Agency, Monitoringbericht 2015, 2015, 210.
[262] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 83.
[263] For the description of the factors influencing variable cost, please refer to subsection II.3.c) earlier in this chapter.
[264] Based on Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 21. The net import of current remains unconsidered.

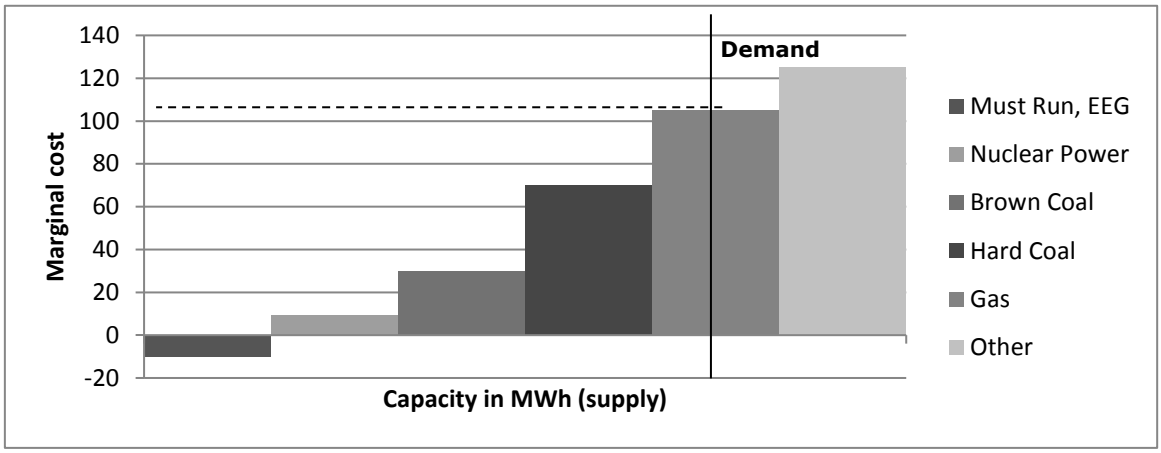

Figure 10: Exemplary merit order in the German power plant mix

From figure 10 it can be deducted that the last plant necessary to satisfy the demand for power in each hour of the day is, with regard to the inelastic demand producers are facing, determining the price of power in the market.[265] All plants producing at a marginal cost lower than the market price earn a surplus on their capacity that can be used to cover the fixed cost of the plant.[266] In a competitive market environment, therefore, offering its capacity at marginal cost in the market would be a dominant strategy for each supplier.[267] Since the market structure found in the German energy market is rather close to an oligopoly than a competitive environment, different pricing strategies are to be expected.[268] The following chapter 2 will develop an approximation to the expected equilibrium.

III.Conclusion

The economic analysis of the German electricity market has revealed a complex structure still being in flux from a formerly monopolized industry to a competitive environment. The following description of the legal framework will further illuminate the regulatory efforts and problems in connection with this change.

[265] Ingo Hensing, Wolfgang Pfaffenberger, and Wolfgang Ströbele, *Energiewirtschaft: Einführung in Theorie und Politik* (München: R. Oldenburg Verlag, 1998), 120.
[266] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 83.
[267] Melanie Etten-Rüppel and Christoph Riechmann, *Stromwirtschaft. Ein Praxishandbuch*, 2nd ed., ed. Michael Bartsch, Andreas Röhling, Peter Salje, Ulrich Scholz (Köln: Carl Heymanns Verlag GmbH, 2008), 38.
[268] Refer to section D.3.b) of this first chapter.

E. Legal Foundations in German and European Union Law

The legal framework for companies in the fields of energy production, transport, and trade, affects various areas of public and private law on both the European and national level. The following section will give a brief overview of the relevant rules and regulations in the fields of:

- Energy law,
- competition law,
- commercial and capital market law.

In absence of specific rules in the legislation on the above-named topics, the German general civil law and general public law apply.

I. Energy Law

The field of energy law cannot be located in one single national German code, but is rather spread over a number of laws and statutory orders. It combines elements of both, private and public law, since most of the rules refer to (private) contracts, that are, however, partly subject to regulatory interventions by the Federal Network Agency (FNA).[269] In a narrow sense, energy law "can be understood as the sum of all legal norms with validity exclusively for the power and gas industry".[270]

The basic rules for the energy sector are codified in the German Law on the Energy Industry (Energiewirtschaftsgesetz, EnWG)[271], which is mainly treating questions of network access (Sec. 20(1), (1a) EnWG), access fees (Sec. 21 EnWG), and basic supply for customers (Sec. 36 EnWG). Sec. 1 EnWG defines the central objectives of German energy law: First and most importantly, supply of the general public with electricity shall be reliable, reasonably priced, consumer-friendly, efficient, and ecological.[272] Second, effective and undistorted competition in energy supply, as well as guaranteed long-term powerful

[269] Ulrich Büdenbender, Wolff Heintschel von Heinegg and Peter Rosin, *Energierecht I. Recht der Energieanlagen* (Berlin: de Gruyter, 1999), 7.
[270] Ibid, 6. Translation by the author.
[271] Heino Mengers, *Energierecht. Handbuch*, 2nd ed., ed. Christoph Germer and Helmut Loibl (Berlin: Erich Schmidt Verlag, 2007), 22.
[272] Ibid, 32.

and reliable operation of power grids shall be ensured.[273] Third, the European requirements in the field of energy law shall be enforced.[274]

In order to meet these standards, the act contains comprehensive regulatory requirements, further concretized in statutory orders based on Sec. 21, 21a, 24 EnWG with regard to network access (German Statutory Order on Network Access for Electricity, Stromnetzzugangsverordnung – StromNZV) and access fees (German Statutory Order on Access Fees for Electricity, Stromnetzentgeltverordnung - StromNEV).

Besides the EnWG, the German Renewable Energy Act (Gesetz für den Vorrang Erneuerbarer Energie, EEG) contains provisions on connection requirements for renewables, preferential feed-in of this current, and the guaranteed feed-in tariffs.[275] Notably, the renewable energy act establishes a claim for a 20-year fixed remuneration of energy stemming from renewable sources (Sec. 16ff. EEG) and obligates network operators to buy this electricity with priority (Sec. 8 EEG).[276] In 2010, the renewed Statutory Order on the EEG Clearing Mechanism (Ausgleichsmechanismusverordnung, AusglMechV) came into effect, forcing transmission system operators to sell current from EEG installations in the spot market (Sec. 2(2) AusglMechV).[277] These rules exert huge influence on the price formation at the energy exchange through the so-called merit-order effect[278], which will be discussed later in this work.[279]

Eventually, the rules on emissions trading relevant to industrial power plants (German Act on Emissions Trading, Treibhausgasemissionshandelsgesetz – TEHG – and related laws), and numerous regulations, particularly from the Federal Network Agency (FNA), shape the legal framework energy producers, distributors, and traders operate in.[280]

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[273] Ibid, 120-121.

[274] The liberalization of the German energy market was driven by the European directive N° 96/92 on the single European power market from December 12, 1996, EU Official Journal from January 30, 1997 L 27, 20, that was forcing member states to open their power industry for competition.

[275] Jens-Peter Schneider, *Recht der Energiewirtschaft. Praxishandbuch*, 3rd ed., ed. Jens-Peter Schneider and Christian Theobald (München: C.H. Beck, 2011), 1204-1205.

[276] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, No. B10-9/09, 65. Also Peter Salje, *Erneuerbare-Energien-Gesetz. Kommentar*, 5th ed. (Köln: Carl Heymanns Verlag, 2009), 343ff., 493ff.

[277] Jens-Peter Schneider, *Recht der Energiewirtschaft. Praxishandbuch*, 3rd ed., ed. Jens-Peter Schneider and Christian Theobald (München: C.H. Beck, 2011), 1233ff.

[278] This term describes the decrease of the power price at the EEX in the event of an installation with lower variable cost entering the market. Particularly wind power and photovoltaic (PV) are typical examples of installations that regularly squeeze more expensive plants out of the merit order. For an analysis of the volume of this effect, see the simulation by Frank Sensfuß, Mario Ragwitz, and Massimo Genoese, "The merit-order effect: A detailed analysis of the price effect of renewable electricity generation on spot market prices in Germany", *Energy Policy*, Vol. 36, no. 8 (2008), 3086-3094.

[279] Refer to the third chapter, section D.I.1. of this work.

[280] For a comprehensive overview of the rules and regulations for the power sector that would go far beyond the scope of this work, please refer to e.g. Jens-Peter Schneider and Christian Theobald (ed.), *Recht der Energiewirtschaft. Praxishandbuch*, 3rd ed. (München: C.H. Beck, 2011).

In August 2011, as a consequence of the nuclear catastrophe in Fukushima, the German energy law experienced an abrupt turnaround. Within a few weeks, the German parliament decided to quit energy production from nuclear sources until 2022 and switch to renewable sources of energy.[281] The existing laws, most importantly the Atomic Energy Act (Atomgesetz – AtG)[282], the EnWG[283], and the EEG[284] were amended to permit the change in paradigm in German energy policy.[285] Main changes in the EnWG refer to the unbundling on the electricity and gas markets, accelerated network expansion, and simplified rules for the change of suppliers for end customers.[286] With regard to the promotion of renewable energy sources – the Federal Government plans to increase the share of renewables in the energy production to 35 percent until 2020 and 80 percent until the year 2050[287] – the EEG was amended in order to avoid severe price increases. In particular, a market premium is supposed to incentivize producers to sell their electricity individually at the exchanges as an alternative to the legally guaranteed payment (Sec. 33a to 33i EEG).[288] Further amendments aim at the relief of the energy intensive industry from the EEG cost.[289]

The amendments resulting from the energy turnaround[290] will affect the above-described supply side of the market in the future, notably the appearance of the merit order. Since this regulatory change happened after the exemplary period of examination treated in this work, it did not influence the market equilibrium during the years 2006 to 2009 and is therefore without relevance for the more general research question on regulatory impacts on manipulation incentives.

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[281] Birgit Ortlieb, "Das Gesetzespaket zur Energiewende – Zusammenfassender Überblick über die wesentlichen Inhalte der acht am 8. Juli 2011 endgültig verabschiedeten, mittlerweile im Bundesgesetzblatt veröffentlichten (und zum größten Teil auch bereits in Kraft getretenen) Gesetze", *EWeRK,* Vol. 11, no. 4 (2011), 151.

[282] Amendment of the AtG: BGBl. I 2011, p. 1704-1705, effective from August 5th, 2011.

[283] Amendment of the EnWG: BGBl. I 2011, p. 1634-1678, effective from August 47h, 2011; partly also serving as transformation of the Third Single Energy Market Package of the European Union.

[284] Amendment of the EEG: BGBl. I 2011, p. 1634-1678, effective from January 1st, 2012.

[285] For an overview of the main changes, see Birgit Ortlieb, "Das Gesetzespaket zur Energiewende – Zusammenfassender Überblick über die wesentlichen Inhalte der acht am 8. Juli 2011 endgültig verabschiedeten, mittlerweile im Bundesgesetzblatt veröffentlichten (und zum größten Teil auch bereits in Kraft getretenen) Gesetze", *EWeRK*, Vol. 11, no. 4 (2011), 151.

[286] Ibid, 153-154.

[287] German Federal Government, "Energiekonzept für eine umweltschonende, zuverlässige und bezahlbare Energieversorgung.", 2010.

[288] Florian Valentin, "Das neue System der Direktvermarktung von EEG-Strom im Überblick", *ree,* Vol. 2, no. 1 (2012), 11.

[289] Christian Buchmüller and Jörn Schnutenhaus, "Die Entlastung stromintensiver Unternehmen durch das Energiepaket des Bundestages", *EWeRK* Vol. 11, no. 4 (2011), 132-134.

[290] The word describes the historic German project to change its energy supply to green, nonnuclear and renewable sources. In the meantime, it is also known in English-speaking countries in its original German term "The Energiewende". See Paul Hockenos, "The Energiewende", *Die Zeit* Vol. 67, no. 47 from November 15, 2012. Available online at http://www.zeit.de/2012/47/Energiewende-Deutsche-Begriffe-Englisch.

II. Competition Law

With regard to the formerly monopolized structure of the power sector, competition law has always played a key role in this industry. With the liberalization of the power market, the exceptions for the power sector from the German Act Against Restraints of Competition (Gesetz gegen Wettbewerbsbeschränkungen, GWB) became ineffective.[291] Since then, the whole sector is subject to the competition laws of the European Union and Germany.

Competition law on both the European and the German national level can be broken up into the following three domains:[292]

Figure 11: Three domains of European and German competition law

With regard to the enforcement of market manipulations, mainly the control of **abusive practices** is of further interest. Therefore, the relevant rules shall be introduced subsequently with their scope and preconditions, furthermore, the relation of European and German national rules will be presented.

[291] Until the 1998 amendment of the GWB, Sec. 103b GWB had stated an exception of the power supply industry from the cartel ban with regard to contracts between companies and between companies and municipalities. See Christian Theobald, *Recht der Energiewirtschaft. Praxishandbuch*, 3rd ed., ed. Jens-Peter Schneider and Christian Theobald (München: C.H. Beck, 2011), 10.

[292] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 30-38. Also Volker Emmerich*, Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 15-19. The denotations of the laws and numbers of the articles have been adapted to the effective rules by the author.

1. Abuse of a dominant position in European law: Article 102 TFEU (ex Article 82 TEC)

The relevant rule for the definition of abusive behavior in European Union law is Art. 102 TFEU, formerly Art. 82 TEC. It reads as follows:

> *"Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States.*
>
> *Such abuse may, in particular, consist in:*
>
> *(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;*
>
> *(b) limiting production, markets or technical development to the prejudice of consumers;*
>
> *(c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;*
>
> *(d) making the conclusion of contracts subject to acceptance by other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts."*

The wording of Art. 102 TFEU names two requirements for market behavior to qualify as abusive: A **dominant position** of the market participant and **abusive behavior**; the list of abusive practices in the article is not exhaustive, however, and just supposed to give rule examples.[293] The two elements shall be examined subsequently.

a) The dominant position

The European Court of Justice, since its famous decision in *Hoffmann-La Roche* (1979), defines market dominance as follows:[294]

> *"The dominant position … relates to a position of economic strength enjoyed by an undertaking, which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of the consumers. Such a position does not preclude some competition, which it does where there is a monopoly or quasi-monopoly, but enables the*

[293] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 34.
[294] Hoffmann-La Roche v Commission. Case 85/76. European Court reports 1979, 461 (1979), Ref. 38-39. Similar Richard Whish and David Bailey, *Competition Law*, 7th ed. (Oxford: Oxford Univ. Press, 2012), 179.

> *undertaking, which profits by it, if not to determine, at least to have an appreciable influence on the conditions under which that competition will develop, and in any case to act largely in disregard of it so long as such conduct does not operate to its detriment."*

In economic terms, this definition implies an appreciable influence on the market price, exerted by the dominant firm.[295] The identification of a dominant position requires the **definition of the relevant market** with regard to the product traded, place, and (where applicable) time as a first step. In its 1997 notice[296], the European Commission established the relevant market concept, specifying the

- relevant product market as comprising "all those products and/or services which are regarded as interchangeable or substitutable by the consumer by reason of the products´ characteristics, their prices and their intended use"; and the
- relevant geographical market as comprising "the area in which the firms concerned are involved in the supply of products or services and in which the conditions of competition are sufficiently homogenous".

In practice, the European Commission employs the so-called SSNIP test to identify the relevant market and detect market dominance.[297] The long form of the abbreviation – "**S**mall but **S**ignificant and **N**on-transitory **I**ncrease in **P**rice"[298] – clearly reveals the conceptual approach: Substitute products are identified in "a speculative experiment, postulating a hypothetical small, lasting change in relative prices and evaluating the likely reactions of customers to that increase." By including additional products and areas to the market at issue, it can be concluded "whether competition from these other products and areas affect or restrain sufficiently the pricing of the parties´ products in the short term."[299] In economic terms, price elasticity of demand is assessed, depending on consumers´ ability to buy from an alternative supplier.[300]

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[295] For its pricing decision, a company having a dominant position will only take into account the best responses of its competitors to each quantity or price offered in the market and not solely its marginal cost of production. See Massimo Motta*, Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 35 and Ref. 88.

[296] European Commission, Notice on the definition of relevant market for the purposes of Community competition law. Official Journal from December 9, 1997. N°. C 372.

[297] Ibid, no. 15-19.

[298] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 102. The small but significant price increase ranges between 5 to 10 percent relative to competitive prices.

[299] European Commission, Notice on the definition of relevant market for the purposes of Community competition law. Official Journal from December 9, 1997. N°. C 372/7 no. 15.

[300] With regard to the meaning and implications of the concept of price elasticity of demand, please refer to section D.I.1.a of this work.

However, the SSNIP test has some weaknesses, especially in cases where firms have already charged prices above the competitive level. A further increase of the market price might not be profitable for the firm, resulting in a wide market definition and only small market shares of a powerful firm on the basis of the SNIPP test.[301] The European Commission tries to answer the question of market dominance therefore using additional criteria, e.g. analyses of the recent past, specific econometric and statistic studies, market views of customers and competitors[302], consumer preferences, barriers and costs associated with switching of demand, and customer and price discrimination.[303]

Once the relevant market has been defined both product-wise and geographically, the firm being suspect of abusive practices has to be identified as dominant in the market. With regard to market dominance, European law refers to a paramount position in the Common European Market.[304] In the past cases, jurisprudence has established a market share of about 40 to 50 percent as a relevant threshold for dominance.[305] In praxis, however, economic analysis is used to judge the market power of firms. Factors like barriers to entry, and vertical integration of firms may intensify the presumption of dominance, whereas e.g. a dominant position on the supply side tends to weaken market power.[306]

b) Abuse of a dominant position

If the analysis comes to the conclusion that market dominance has to be approved, abuse of the dominant position has to be proved. The pure creation of a dominant position through internal growth of firms is not punished in European competition law.[307] Therefore, the subsumption of market behavior under Art. 102 TFEU requires a clear definition of

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[301] This situation is denoted as "Cellophane Fallacy". See Ernst-Joachim Mestmäcker and Heike Schweitzer, *Europäisches Wettbewerbsrecht*, 2nd ed. (München: C.H. Beck, 2004), 395. Also Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 105.

[302] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 69.

[303] European Commission, Notice on the definition of relevant market for the purposes of Community competition law. Official Journal from December 9, 1997. N°. C 372/10-11, no. 36-43.

[304] Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 903-904 Ref. 14, 15. Firms with dominance only on minor parts of the Common Market are not subject to the European abuse provisions.

[305] United Brands Company and United Brands Continentaal BV v. Commission. Case 27/76. European Court reports 1978, 207 (1978), Ref. 108. Hilti AG v. Commission. Case T-30/89. European Court Reports 1994, I-00667, Ref. 92f. Akzo Chemie BV v. Commission. Case C-62/86. European Court Reports 1991, I-03359, Ref. 60. See also Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 35. Further Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 907 Ref. 19.

[306] Please refer to section D.I.3.b for an overview of structural factors that benefit concentration. See also Ernst-Joachim Mestmäcker and Heike Schweitzer, *Europäisches Wettbewerbsrecht*, 2nd ed. (München: C.H. Beck, 2004), 404-405.

[307] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 35.

abuse. Again, the 1979 case *Hoffmann-La Roche* (1979), delivers important indications for abusive behavior:[308]

> *"which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition."*

Art. 102 TFEU names a number of examples for abusive practices, that are, however, not exhaustive. For the case of price manipulations discussed here, Art. 102 lit. a TFEU is the relevant paragraph. This rule has two prerequisites: Prices must be **extorted and inappropriate**. For the element of extortion to be satisfied, any use of the market power a firm has is sufficient, a special exercise of pressure on the consumers is not required.[309] The decisive element of the abuse provision, therefore, is the inappropriateness of the price charged.[310] The main criterion for the judgment of prices as inappropriate is a missing relation between price and economic value of the good or service.[311] Based on the profit margin, thus the **difference between production cost and price**, the Commission evaluates prices with regard to their appropriateness.[312]

Several different concepts have been applied to determine inappropriate prices.[313] Comparisons may be drawn with other (competitive) markets or prices for comparable goods and services.[314] However, it remains difficult to prove abuse of market power through excessive prices convincingly based on these approaches.[315] This core thesis of the present work will be developed in depth in the following chapter 2, analyzing the past efforts of competition authorities in detail.

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[308] Hoffmann-La Roche v. Commission. Case 85/76. European Court reports 1979, 461 (1979), Ref. 38-39.
[309] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 149.
[310] Ibid.
[311] General Motors Continental NV v. Commission. Case 26/75. European Court Reports 1975, 1367. See also Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 919 Ref. 38.
[312] Ernst-Joachim Mestmäcker and Heike Schweitzer, *Europäisches Wettbewerbsrecht*, 2nd ed. (München: C.H. Beck, 2004), 410.
[313] For an overview of the most famous approaches, please refer to Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 928-933.
[314] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 150.
[315] Massimo Motta, *Competition Policy. Theory and Practice* (New York: Cambridge University Press, 2004), 69-70.

c) Sanctions

Upon existence of abusive practices, Art. 7(1) of the European regulation N° 1/2003[316] authorizes the European Commission to take all relevant actions necessary to end the abuse.[317] Furthermore, **fines** can be determined, Art. 23 REG 1/2003.[318] Abusive agreements between companies may be void by law if the violation is centered in a disturbance of the economic liberty of action, Sec. 134 BGB.[319] In less severe cases, an adaption of the contract provisions (e.g. a reduction of the price) takes precedence over the legal consequence of nullity.[320] Beyond that, **damages claims** of aggrieved parties on the basis of Sec. 33 GWB are a legal tool to punish infringements of competition law.[321] The current system of sanctions for antitrust infringements will be presented in chapters 3 (governmental sanctions) and 4 (private sanctions) in a comprehensive manner and be subjected to an economic evaluation as part of the positive analysis of incentives for market participants.

2. Abuse of a dominant position in German law: Sections 19, 20, 29 GWB

In the German code, Sec. 19, 20, and 29 GWB treat abusive practices. Market manipulations of any form might only be subsumed under Sec. 19 GWB, which reads:

> *"(1) The abuse of a dominant position by one or several undertakings is prohibited.*
>
> *(2) An abuse exists in particular if a dominant undertaking as a supplier or purchaser of a certain type of goods or commercial services*
>
> *1. directly or indirectly impedes another undertaking in an unfair manner or directly or indirectly treats another undertaking differently from other undertakings without any objective justification;*
>
> *2. demands payment or other business terms which differ from those which would very likely arise if effective competition existed; in this context, particularly the conduct of undertakings in comparable markets where effective competition exists shall be taken into account;*
>
> *3. demands less favourable payment or other business terms than the*

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316 European Regulation N° 1/2003. EU Official Journal from May 1, 2004, 2003 N° L 1, 1.

317 Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 173.

318 Holger Dieckmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1588 Ref. 1.

319 Ibid, 1509 Ref. 17.

320 Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 174.

321 Courage Ltd v. Bernard Crehan. Case C-453/99. European Court Reports 2001, I-6297. Also Manfredi v. Lloyd Adriatico Assicurazioni SpA. Joined Cases C-295/04 to C-298/04.European Court Reports 2006, I-06619. See also Holger Dieckmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1510 Ref. 20.

dominant undertaking itself demands from similar purchasers in comparable markets, unless there is an objective justification for such differentiation;

4. *refuses to allow another undertaking access to its own networks or other infrastructure facilities against adequate consideration, provided that without such joint use the other undertaking is unable for legal or factual reasons to operate as a competitor of the dominant undertaking on the upstream or downstream market; this shall not apply if the dominant undertaking demonstrates that for operational or other reasons such joint use is impossible or cannot reasonably be expected;*

5. *uses its market position to invite or cause other undertakings to grant it advantages without any objective justification.*

(3) Paragraph 1 in conjunction with paragraph 2 nos 1 and 5 also applies to associations of competing undertakings within the meaning of §§ 2, 3, and 28(1), § 30(2a) and § 31(1) nos 1, 2 and 4. Paragraph 1 in conjunction with paragraph 2 no. 1 shall also apply to undertakings which set resale prices pursuant to § 28(2) or § 30(1) sentence 1 or § 31(1) no. 3."

Sec. 19 GWB aims, in parallelism to the European rules, at the protection of third parties´ liberty of action in case of exposure to dominant firms.[322] Like the European code, Sec. 19(1) GWB has two elements: The dominant position and abusive behavior, the definition of which will be introduced subsequently.

a) The dominant position

With regard to the identification of dominance, the German law parallels the European concept for the definition of the relevant product and geographic market (Sec. 18 GWB).[323] Dominance is assumed if a monopoly exists or no substantial competition is observed in a market (Sec. 18(1) N° 1 GWB), a firm has a paramount market position (Sec. 18(1) N° 3 GWB), or has no substantial competition (Sec. 18(1) N° 2 GWB).[324] In legal practice, courts judge market power by way of an overall view of the relevant factors, mainly examining a firm´s ability to influence the market price.[325]

[322] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 339.

[323] Ibid, 341.Please refer to the preceding subsection for details. In depth Anne Godde, *Marktabgrenzung im Stromsektor* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 92.

[324] See Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 983-991.

[325] Sachs v. GKN, KVR 4/77, BGHZ 71, 102 (1978). Also Klöckner v. Becorit, KVR 1/80, BGHZ 79, 62 (1980). And Springer v. MZV, KVR 2/80, BGHZ 82, 1 (1982).

b) Abuse of a dominant position

Besides the sweeping clause in Sec. 19(1) GWB, there are a variety of rule examples for abusive practices in Sec. 19(2) GWB. Excessive pricing is listed in Sec. 19(2) N° 2. The rule defines the "hypothetical competitive price" as a benchmark for price controls.[326] This price is found by comparison with prices paid in similar markets (so-called analogue market conception - Vergleichsmarktkonzept).[327] Yet, this approach, as other indirect concepts to approach the competitive price[328], has not proved to be a successful instrument in competition policy.[329]

As a consequence of their weaknesses, price controls may only be a corrective in cases where all other measures of competition law fail.[330] An in-depth analysis of the drawbacks of this instrument in its current form will be conducted in chapters 2 and 3 of this work, combined with possible alternative regulatory concepts presented likewise in chapter 3.

c) Sanctions

Infringements of the abuse provisions are punished both in German public and civil law. The German public law empowers antitrust authorities to issue injunctive relieves against firms engaging in abusive pricing, Sec. 32 GWB[331], and contains provisions on fines, Sec. 83 GWB et sqq. with reference to the German code on administrative offences (Ordnungswidrigkeitengesetz – OWiG).[332]

For damages claims, Sec. 33 GWB is the legal basis.[333] With reference to the German Civil Code, aggrieved parties may sue dominant firms for unlawful, culpable abusive actions that caused them damages.[334] The value of this instrument in competition law and problems of this approach will be discussed in chapters 4 and 5 of this work.

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[326] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1003 Ref. 51.
[327] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 368-369.
[328] E.g., approaches observing profits and profit margins based on a comparison of production cost and revenue have been developed, but failed to deliver convincing results due to missing data on actual production costs. See ibid, 371.
[329] See also the references in the preceding section on European competition law.
[330] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 369, 371.
[331] Tobias Klose, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1775 Ref. 1.
[332] Martin Klusmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1900 et sqq.
[333] Julia Topel, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1753 et sqq.
[334] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 533.

3. The relation of European and German national law

Since there are two regulatory regimes for cases of abusive practices, the question comes up which rules shall be applied. The relation of European and German national competition law is regulated in the European regulation N° 1/2003.[335] As a general rule, European and national competition law are applicable parallel in cases where trade between Member States is affected (Art. 3(1) REG 1/2003 and Sec. 22(1) GWB). The German national courts and agencies are free to decide whether they want to apply the German code in addition to European law (Sec. 22(2), (3)); in doing so, however, they have to respect the primacy of community law.[336]

An exception from this general rule has been made with regard to Art. 102 TFEU: Member States may adapt rules stricter than community law to prevent or punish unilateral acts of firms (Art. 3(2), second sentence REG 1/2003, Sec. 22(3), third sentence GWB).[337]

As a consequence of this parallelism, both European and German competition law will be examined with regard to their ability to prevent manipulations in the following analysis.

4. Summary and outlook

The description of both European and German competition law produces two results: Firstly, the existing competition law does apparently cover abusive practices by dominant firms in an extensive manner. Yet, secondly, the introduced concepts for the assessment of market power already point to the practical problems with regard to the need for robust evidence for antitrust violations.

This problem will be further analyzed in Chapter 2 of this work by looking at past efforts to prove manipulations both by European and German cartel offices. Eventually, chapters 3 and 4 will focus on suitable alternative approaches to prove abusive behavior.

III. Exchange and capital market law

As a third important complex, the following subsection will give an overview of the rules and regulations governing the conduct of exchange participants. Just as for the other

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[335] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 115 Ref. 2.
[336] Volker Emmerich, *Kartellrecht*, 11th ed. (München: C.H. Beck, 2008), 42-43.
[337] Ibid, 44.

fields of law, both European and German national laws define standards for admission and trade.

1. European laws and regulations on capital markets

On the European level, the Markets in Financial Instruments Directive (MiFID)[338] and the revised directive MiFID II (applicable from January 2, 2018)[339], out of it particularly the Market Abuse Directive (MAD)[340] and Market Abuse Regulation (MAR)[341], and recently drafted regulations on Energy Market Integrity and Transparency (REMIT)[342], and on OTC derivatives, central counterparties and trade repositories (EMIR)[343], are the main legal framework for trades at exchanges.

Since the MiFID and the MAD have been implemented in German law by way of the act implementing the Markets in Financial Instruments Directive (Finanzmarktrichtlinie-Umsetzungsgesetz, FRUG)[344], thereby mainly changing the provisions of the Securities Exchange Act (Börsengesetz, BörsG) and the Securities Trading Act (Wertpapierhandelsgesetz, WpHG), European and German national law are widely synchronous.[345] The MAR is applicable directly and has hence not been transposed into German law.[346] Therefore, the introduction to these provisions will be given in the subsection on German capital market law.

REMIT and EMIR entered into force on December 28, 2011.[347] The most significant changes for actors on financial markets intended by the two regulations are pictured in the following figure:

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[338] Directive 2004/39/EC from April 21, 2004. Official Journal L 145, p. 1-44.
[339] Diretive 2014/65/EU from May 15, 2014. Official Journal L 173, p. 349-496. With regard to the changes to be expected in 2017 refer to Ines Zenke, "Was die Finanzmarktaufsichtsbehörde BaFin "mit Energie" umtreibt," *IR* Vol. 12, no. 12 (2015), 266-267.
[340] Directive 2003/6/EC from January 28, 2003. Official Journal L 96, p. 16-25. Renewed by directive 2014/57/EU from April 16, 2014. Official Journal L 173, p. 179-189.
[341] Regulation N° 596/2014/EU from April 16, 2014. Official Journal L 173, p. 1-61.
[342] European Commission, Proposal for a Regulation of the European Parliament and of the Council on energy market integrity and transparency, COM(2010) 726 final from December 12, 2010. Available online at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0726:FIN:EN:PDF.
[343] European Commission, Proposal for a Regulation of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories, COM(2010) 484 final from September 15, 2010. Available online at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0484:FIN:EN:PDF.
[344] Act implementing the Markets in Financial Instruments Directive (Finanzmarktrichtlinie-Umsetzungsgesetz, FRUG), version promulgated on July 16, 2007, Federal Law Gazette I, 1330.
[345] Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 25 Ref. 1.91.
[346] BaFin, "Market Manipulation" (2017). Available online on https://www.bafin.de/EN/Aufsicht/BoersenMaerkte/Marktmanipulation/marktmanipulation_node_en.html (last accessed October 23, 2017).
[347] Regulation on wholesale Energy Market Integrity and Transparency (REMIT) N° 1227/2011 of the European Parliament and of the Council. Version promulgated on October 25, 2011 (Official Journal L 326, p. 1-16).

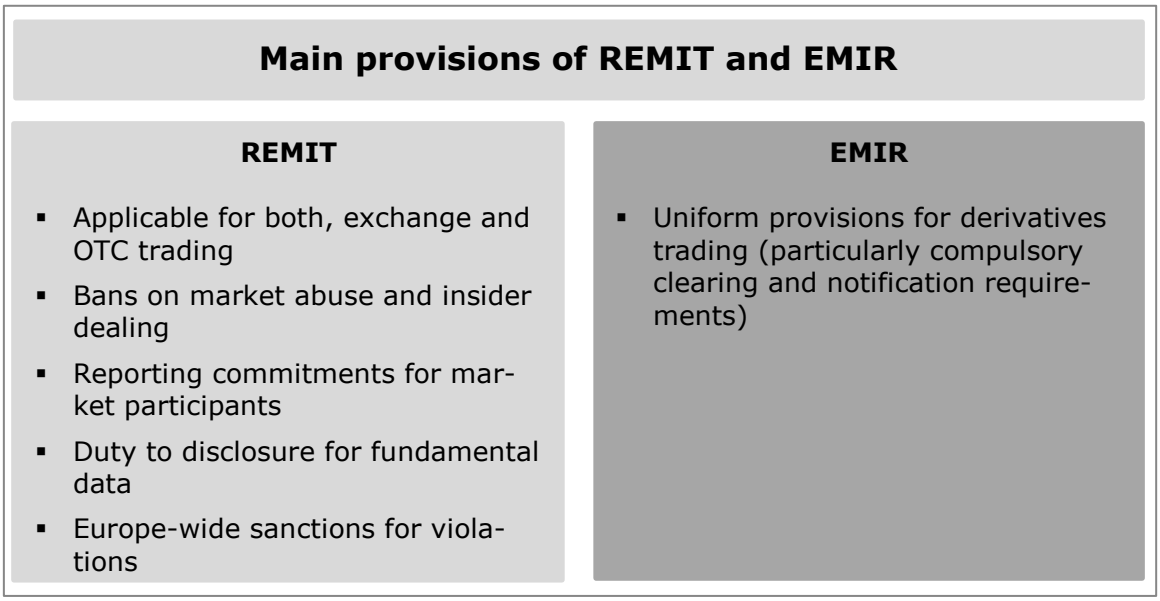

Figure 12: Main provisions of REMIT and EMIR

Taken as a whole, the intended changes are supposed to close existing gaps in legislation and create more effective instruments for market surveillance – notably on the OTC market.[348]

2. German laws and regulations on capital markets

In German national law, three main laws regulate access to and behavior at exchanges: The Securities Exchange Act (Börsengesetz, BörsG), the Securities Trading Act (Wertpapierhandelsgesetz, WpHG) and the follow-up regulation in the MAR, as well as the German Banking Act (Kreditwesengesetz, KWG). Especially with regard to the Securities Exchange and the Securities Trading Act (BörsG and WpHG), the influence of European legislation has to be respected. Any interpretation of these rules has to be done in the light of the European directive.[349]

The scope of each of the statutes is pictured in the following chart:

[348] Janine Riewe, "Verordnungsentwurf zur Transparenz und Marktintegrität im Energiegroßhandel vom 08. Dezember 2010", *EWeRK* Vol. 11 no. 1 (2011), 9-10.
[349] Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 28-29 Ref. 1.102.

Figure 13: The scope of the three German banking and exchange acts

The following subsections will shortly introduce the relevant provisions with regard to the topic of exchange manipulations.

a) Important terms and definitions in German capital market law

The term **exchange** is defined legally in Sec. 2(1)-(3) BörsG[350], whereupon a differentiation is made between securities exchanges (Sec. 2(2) BörsG) and commodity exchanges (Sec. 2(3) BörsG).[351] Gas and electricity products are unquestionably classified as commodities.[352] Therefore, the rules for commodities exchanges apply to the EEX.

[350] The legal norm defines exchanges as public-law institutions with some legal capacity that organize and monitor multilateral systems matching buyers and sellers of economic goods according to the BörsG. See also Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 152 Ref. 3.3.

[351] Ibid, 160 Ref. 3.23.

[352] Michael Cieslarczyk and Thomas Pilgram, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 637.

According to the definition in Sec. 2(3) BörsG, commodities exchanges are open to trade in commodities as defined in Sec. 2(2c) WpHG[353], futures contracts with reference to commodities, and futures contracts as defined in Sec. 2(2) N° 2 WpHG. The enumeration in this provision refers to the central term with regard to the scope of German capital market law: **financial instruments**. A legal definition of this term can be found in Sec. 2(2b) WpHG. This provision includes:

- Securities as defined in Sec. 2(1) WpHG,
- financial market instruments (Sec. 2(1a))[354],
- derivatives (Sec. 2(2) WpHG), and
- rights to subscription of securities.

Since the products traded at commodities exchanges, namely day-ahead contracts on the spot market and Phelix futures or options on the futures market[355], are not securities and financial market instruments, as well as subscription rights, they can only be classified as derivatives. The law names several requirements for contracts to be treated as derivatives in the meaning of the WpHG:

- Futures contracts with reference to (e.g.) commodities,
- performance is realized by way of cash clearing,
- the contracts are concluded in an organized market or in a multilateral trading system,
- they are **no spot transactions**.

[353] Sec. 2(2c) WpHG defines commodities as fungible assets that can be delivered, including amongst other things energies like electricity.
[354] According to the legal definition, financial market instruments are classes of claims not comprised by Sec. 2(1), but typically traded in the financial market. Cash Bills and Treasury Bills in the governmental sector are an example, but already comprised by Sec. 2(1) in their nature as bonds. See Heinz-Dieter Assmann, *Wertpapierhandelsgesetz. Kommentar*, 5th ed., ed. Heinz-Dieter Assmann and Uwe H. Schneider (Köln: Verlag Dr. Otto Schmidt, 2009), 145-146 Ref. 37.
[355] For details please refer back to section D.II.3.b.

As a consequence of this definition, EEX spot products, particularly day-ahead trading, are not subject to the WpHG and KWG rules governing access to and conduct in the exchanges.[356] The futures contracts, however, are comprised by the definition and as a consequence subject to the rules presented subsequently.[357]

b) Structure, surveillance, and conditions of trade: The Securities Exchange Act (BörsG) and connected rules

The Securities Exchange Act (BörsG) contains legal foundations for all exchanges operating in Germany. However, this statute is completed by several other rules – mainly on-site by the EEX.[358] The most important ones are:[359]

- The exchange regulations of the EEX (Börsenordnung, BörsO)[360],
- the EEX Code of Conduct[361],
- the EEX trading conditions[362] and the EEX contract specifications[363],
- the admission rules of the EEX[364], and
- the EEX OTC-clearing regulations.

Legal provisions for the operation of exchanges are codified in the **Securities Exchange Act (BörsG)**. The operation of an exchange requires a public permit in the first place, Sec. 4(1) BörsG. The EEX and its preceding organizations did pass the approval process

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[356] Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 1235 Ref. 13.50. Likewise Oliver Brunke, Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange (Frankfurt am Main: Peter Lang, 2011), 110, 172-173.

[357] Michael Cieslarczyk and Thomas Pilgram, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 637.

[358] In their nature as a public body, the exchanges are authorized to legislate. See Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 152 Ref. 3.3.

[359] See for a complete list Philipp Härle, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 401-402. For access to the documents, please refer to www.eex.com/en/Download/Documentation/Rules_and_Regulations.

[360] This code is a public-law by-laws according to Sec. 12(2) N° 1 and Sec. 16 BörsG. The latest version from September 25, 2011 is published on www.eex.com/en/document/97629/20110925_EEX_Exchange_Rules_0019a_e_final_clean.pdf.

[361] EEX Code of Conduct from June 24, 2010. Availabe at www.eex.com/en/document/76054/EEX_code_of_conduct_en.pdf.

[362] This regime describes explicitly the kinds of possible orders, including the submission, price fixing, and conclusion of contracts. Details will not be discussed in this work.

[363] The contract specifications as a part of the trading conditions define standards for the spot and futures market products. For details see Philipp Härle, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 410 et sqq.

[364] These rules refer to the admission requirements and process of exchange traders. The topic will not be dealt with in detail here.

and were permitted as commodity exchanges.[365] During their operation, exchanges are subject to public oversight by the Federal Agency for Financial Market Supervision (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin).[366] However, the merger of the EEX Power Spot GmbH with the French EPEX Spot SE with its registered office in Paris resulted in a supervision vacuum: The French authority, the Commission de Régulation de l` Energie (CRE) is only reliable for French energy trade and cross-border transactions. The EEX spot market for the German market area is therefore not covered by any CRE competence, nor is there a responsibility of the German BaFin for companies with registered offices outside the territory of Germany. As a consequence, the EEX spot market does currently operate without supervision of governmental authorities, the BörsG provisions don´t apply.[367]

The internal structure of the EEX can be described – in a simplified illustration – as a split of power between the Exchange Executive Board, the Exchange Council, and the Market Surveillance.[368] The Exchange Council is the highest body in the exchange organization; its elected members are representatives of the companies admitted for trade at the exchange. Its main functions are promulgation of the exchange rules, the appointment and surveillance of board members and the director of the Market Surveillance (Sec. 12(2), 14 BörsG).[369] The Executive Board is reliable for the daily business, particularly the execution of trade (Sec. 15 BörsG). Eventually, Sec. 7 BörsG requires the installation of a Market Surveillance, which is supposed to collect and analyze data in order to detect breaches of rules and manipulations.[370]

An important document with regard to market manipulations is – since 2008[371] – the EEX **Code of Conduct**. This public-law by-law contains behavioral rules for trading at the exchange, information requirements, and sanctions. It applies to the exchange itself, all exchange participants and traders (Sec. 1(1) Code of Conduct).[372] Therefore, also spot market transactions are included in the scope of the code, other than under the Securities Exchange and Securities Trading Act (BörsG and WpHG).[373] Sec. 3 et sqq. Code of Conduct

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[365] Michael Cieslarczyk and Thomas Pilgram, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 638.
[366] Heiko Beck, *Kapitalmarktrechts-Kommentar*, 4th ed., ed. Eberhard Schwark and Daniel Zimmer (München: C.H. Beck, 2010), Sec. 3 BörsG Ref. 1.
[367] Kevin Canty and Volker Lüdemann, "Strompreisbildung ohne Aufsicht", *Frankfurter Allgemeine Zeitung* from November 23, 2010.
[368] Michael Cieslarczyk and Thomas Pilgram, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 644 Ref. 41.
[369] Ibid, 644-645 Ref. 42, 45.
[370] Ibid, 639 Ref. 24.
[371] The first Code of Conduct was promulgated on June 13, 2008.
[372] Philipp Härle, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 403 Ref. 739a.
[373] One of the intentions for the Code of conduct was to close legal gaps in the Securities Trading Act. See ibid, 454 Ref. 967.

prohibits all forms of manipulations of stock exchange dealing, particularly fictitious or misleading orders (Sec. 4 and 5 Code of Conduct), agreements or collusive behavior (Sec. 6 Code of Conduct), and manipulation of the settlement price such that it deviates from the fair market price (Sec. 7 Code of Conduct). Furthermore, the code obliges exchange participants to support market transparency and refrain from insider dealing (Sec. 8, 9 Code of Conduct). In the event of violations, Sec. 19 Code of Conduct provides sanctions, most importantly the exclusion of the participant concerned from exchange trading for a certain market respectively product or altogether.[374] Sec. 19(2) Code of Conduct clarifies that sanctions based on the code do not preclude sanctions on the basis of other laws. This notice mainly points to the (higher-ranking) federal Securities Trading Act and its provisions on manipulations and insider dealing introduced in the following subsection.

c) Rules of good conduct for exchanges: The Securities Trading Act (WpHG) and Market Abuse Regulation (MAR)

The Securities Trading Act contained rules on capital market surveillance, insider trading, ad hoc disclosures, market manipulations, and general and special rules of conduct for security service providers towards their customers[375] until its replacement by the MAR in 2016.[376] For the purpose of this work, notably the **ban on market manipulations and insider trading** will be examined closer.

Since during the period of examination, Sec. 20a WpHG was still in place, the focus will be on this rule. The follow-up regulation in Art. 12, 15 MAR, that is widely identical with the former Sec. 20a WpHG,[377] will however be introduced since it applies to future capital market manipulation cases.

As already indicated above, the rules do only apply to financial instruments consistent with the definition in Sec. 2(2b), 2(2) N° 2 WpHG and as a consequence do not cover EEX spot market transactions.[378]

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[374] Ibid, 454 Ref. 968.
[375] Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 1219 Ref. 13.1.
[376] BaFin, „Market Manipulation" (2017). Available online on https://www.bafin.de/EN/Aufsicht/BoersenMaerkte/Marktmanipulation/marktmanipulation_node_en.html (last accessed October 23, 2017).
[377] Krause, "Kapitalmarktrechtliche Compliance: neue Pflichten und drastisch verschärfte Sanktionen nach der EU-Marktmissbrauchsverordnung", *CCZ* Vol. 7, no. 6 (2014), 258.
[378] Oliver Brunke, Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange (Frankfurt am Main: Peter Lang, 2011), 117.

As a first important instrument to ensure fair market behavior, the **ban on insider trading** was codified in Sec. 12 et sqq. WpHG. It prohibited the utilization of special or secret knowledge with relevance to the market price of assets in an unfair manner.[379] Today, the ban on insider trading is codified in Art. 7 et sqq. MAR.

The second – and more relevant – important instrument for market integrity in the Securities Trading Act is the **ban on market manipulations**, formerly Sec. 20a WpHG, now codified in Art. 12, 15 MAR. Just as for the ban on insider dealings, the rule addresses everybody, aiming at the protection of reliable exchanges and exchange prices.[380] It does not protect any individual interest of traders, but the functionality of securities markets as a whole.[381]

Forbidden behavior under the former Sec. 20a(1) WpHG and also Art. 12, 15 MAR is categorized as follows:[382]

- Incorrect or misleading statements about circumstances with relevance for the evaluation of a certain financial instrument if the information is capable to influence the market price (formerly N° 1),
- Transactions or orders that are capable to yield wrong or misleading price signals for financial instruments, as well as the establishment of an artificial price level (formerly N° 2), and
- Other frauds with potential to influence the market price for financial instruments (formerly N° 3).

Any behavior being classified as allowed custom in the market was excluded from the prohibition, former Sec. 20a(2) WpHG. The exclusion required approval by the BaFin.[383]

With regard to the focal point of this work, particularly the former **Sec. 20a(1) N°2 WpHG, now Art. 12, 15 MAR,** is relevant. The rule referred to transactions with financial instruments and orders with the capacity to send misleading signals for the price. It is important to notice that the pure *capacity* to cause irritations through wrong price signals

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[379] Christian Siller, *Kapitalmarktrecht* (München: Verlag Franz Vahlen GmbH, 2006), 7.

[380] Sebastian Mock, Andreas Stoll, and Thomas Eufinger, *Kölner Kommentar zum WpHG*, ed. Heribert Hirte and Thomas M.J. Möllers (Köln: Carl Heymanns Verlag, 2007), 674 Ref. 114.

[381] As a consequence, individual traders may not claim damages in the event of violations of Sec. 20a WpHG based on Sec. 823(2) BGB. For details and the recent developments in this discussion, see Joachim Vogel, *Wertpapierhandelsgesetz*, 5th ed., ed. Heinz-Dieter Assmann and Uwe H. Schneider (Köln: Verlag Dr. Otto Schmidt, 2009), 842-843 Ref. 31.

[382] For a short overview of prohibited behavior, see Christian Siller, *Kapitalmarktrecht* (München: Verlag Franz Vahlen GmbH, 2006), 38-41.

[383] Markus Lenenbach, *Kapitalmarktrecht und kapitalmarktrelevantes Gesellschaftsrecht*, 2nd ed. (Köln: RWS Verlag Kommunikationsforum GmbH, 2010), 1386-1387 Ref. 13.483-13.484.

or artificial price levels sufficed to satisfy the requirements of the manipulation provision.[384] The benchmark for a price signal to be misleading was the true economic conditions on the market in question. These conditions, however, are based on the many price signals from all bid and ask bids in the market[385] which makes the demarcation between (forbidden) wrong price signals and allowed price signals practically almost impossible.[386] Moreover, the law did not contain a critical threshold for neither the price signal nor the price level to be qualified as wrong respectively artificial.[387]

Violations of the ban on market manipulations may be punished with fines up to five million Euro (for individuals) respectively 15 percent of the yearly turnover for legal entities, Sec. 39(3d) N° 2, (4a) WpHG in case of abstract exposure to wrong price signals and artificial price levels. Is the abstract exposure realized and the manipulation successful, Sec. 38(1) N° 2 in connection with Sec. 39(3d) N° 2 WpHG even allow for imprisonment.[388]

d) Banking permit for energy traders: Provisions of the Banking Act (KWG)

The German Banking Act requires all companies engaging commercially in the banking business or offering financial services to obtain a banking permit from the BaFin, Sec. 32(1) KWG. The provision covers in the energy business inter alia:[389]

- Investment brokerage (Sec. 1(1a) N° 1 KWG),
- Contract brokerage (Sec. 1(1a) N° 2 KWG),
- Portfolio management (Sec. 1(1a) N° 3 KWG), and
- trading in one´s own name and for one´s own account (Sec. 1(1a) N° 4 KWG).

At present, however, most energy traders are exempted from the authorization on the basis of Sec. 2 KWG. First, the intra-enterprise doctrine exempting all financial services

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[384] Joachim Vogel, *Wertpapierhandelsgesetz*, 5th ed., ed. Heinz-Dieter Assmann and Uwe H. Schneider (Köln: Verlag Dr. Otto Schmidt, 2009), 890 Ref. 150.
[385] See section D. on the economic foundations for details.
[386] See e.g. the justified criticism in Joachim Vogel, *Wertpapierhandelsgesetz*, 5th ed., ed. Heinz-Dieter Assmann and Uwe H. Schneider (Köln: Verlag Dr. Otto Schmidt, 2009), 890 Ref. 150.
[387] Sebastian Mock, Andreas Stoll, and Thomas Eufinger, *Kölner Kommentar zum WpHG*, ed. Heribert Hirte and Thomas M.J. Möllers (Köln: Carl Heymanns Verlag, 2007), 708 Ref. 194.
[388] Christian Siller, *Kapitalmarktrecht* (München: Verlag Franz Vahlen GmbH, 2006), 41.
[389] Michael Cieslarczyk, *Energiehandel. Ein Praxishandbuch*, ed. Karl-Peter Horstmann and Michael Cieslarczyk (Berlin: Carl Heymanns Verlag KG, 2006), 132 Ref. 43.

carried out between group members from the authorization requirement, relieves the huge groups of enterprises from the application for the BaFin permit, Sec. 2(1) N° 7 KWG.[390] Second, the futures exchange privilege codified in Sec. 2(1) N° 8 KWG excludes all traders from the KWG surveillance if they only act on derivatives markets (so-called Locals).[391] Energy traders at the EEX can claim this exemption – even if they are active on both the futures and the spot market, because trading in the spot market is not subject to BaFin authorization according to the KWG as it is not a securities exchange.[392]

As a consequence, most energy traders are currently not subject to the surveillance and financial requirements codified in the Banking Act.

3. Summary and outlook

In conclusion, the examination of the existing capital market laws has shown that, although many abusive practices are covered, there is no comprehensive ban on all harmful practices and for all market segments. Most notably, the lacking coverage of the OTC market and the inapplicability of the provisions of the Securities Trading Act on the spot market constituted considerable legal gaps.[393] In the meantime, this gap has been closed by the REMIT rules, the effectiveness of which will be discussed in the next chapter.

On the other hand, it has been carved out that the existing EEX Code of Conduct covers both, the products not in the scope of the WpHG and the OTC market segment at the EEX.

IV. Conclusion

The analysis of the European and German legal foundations for the electricity market has revealed a complex system of rules, yet also pointed to several serious gaps. Subsequently, this work conducts hence a **positive analysis of the existing legal system** and its behavioral implications on market participants in chapters 2 (enforcement) and 3 (sanctions), followed by a **normative analysis** in chapter 3 that shows how the reform

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[390] Ibid, 138 Ref. 66.

[391] Béatrice Freiwald, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 670 Ref. 1336.

[392] BaFin, Merkblatt – Hinweise zur Erlaubnispflicht von Geschäften im Zusammenhang mit Stromhandelsaktivitäten, dating from June 24, 2011. Available at www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Service/Merkblaetter/mb_110622_stromhandel.html.

[393] Kevin Canty and Volker Lüdemann, "Strompreisbildung ohne Aufsicht", *Frankfurter Allgemeine Zeitung* from November 23, 2010.

of the system of sanctions may affect the practical enforcement of the rules by a change of the incentive scheme.

F. Summary of the First Chapter

This first chapter started with a short outline of the research question, followed by the main theses guiding the research. The central questions to be answered are

(1) which were the incentives for firms to manipulate prices in the wholesale market for electricity during the period of examination in the years 2006 to 2009 (positive analysis), and

(2) how regulation may change the incentives in a way that impacts the market participants´ behavior and results in the ex-ante prevention of market manipulations.

Subsequently, the research methodology was introduced. This work follows the law and economics approach, an interdisciplinary subject using the tools of economics to examine legal frameworks positively and analyze different legal correctives normatively. Section C. of this chapter offered a detailed introduction to the law and economics paradigm and its suitability to produce evidence for the research theses.

The following subsection D. of this chapter presented a brief introduction to the German energy market from an economic point of view. Starting from a quick overview of the basics of competitive economic markets compared to concentrated markets and their economic losses, the analysis turned to the special case of energy markets. In the light of the historical development of this market from a monopolized structure to a regulated industry as well as the specific features of the good electricity, the market structures in power generation, distribution, and trade during the period of examination were introduced. It was shown that the market was highly concentrated with the four established energy producers E.ON, RWE, Vattenfall, and EnBW controlling up to 85 percent of the production facilities. Based on this analysis, the formation of electricity prices according to the merit order mechanism was subject to a detailed description. In summary, the marginal cost of a kWh of electricity produced by the last power plant needed to satisfy market demand determined the market price of all kWhs of electricity.

Subsection E. switched the focus from the economic examination to the legal facts relevant to the energy industry. The three main fields of law shaping the energy sector, namely

- energy law,
- competition law, and
- capital market law

were introduced and presented with their main features. Thereafter, critical points and legal gaps were pointed out and a first approach to their closing was indicated. Notably, practical problems in the proof of antitrust violations in the field of competition law, as well as lacking supervision of the EEX spot market and the inapplicability of provisions against market manipulation codified in the Securities Trading Act in the field of capital market law were identified to hinder the efficient execution of the existing legal framework to the benefit of the market. This creates incentives for market participants to engage in manipulations of the market to their firms´ benefit.

On the basis of these fundamental findings, the following chapter 2 will examine possible manipulation strategies and identify the authorities´ practical problems with regard to the enforcement of sanctions for offences against the legal bans in a positive analysis. The following chapters 3 to 5 build on the findings regarding distorted incentives and propose corrections of the law to achieve an impact on the market participants´ behavior in line with the regulator´s goals.

SECOND CHAPTER: STRATEGIES OF MARKET MANIPULATION AT THE EEX – ECONOMIC AND LEGAL CLASSIFICATION

A. Introduction

"The `free market´ is the product of laws and rules continuously emanating from legislatures, executive departments, and courts."[394]

Based on the preceding analysis of structure and pricing in the German energy market, this chapter will examine pricing strategies that favor the energy suppliers, but drive the market towards an equilibrium that deviates from the competitive welfare-maximizing level. With regard to energy trading at the EEX, **physical and financial capacity retention** are two harmful strategies to influence the market price. Both will be examined in depth in the following sections.

The chapter starts with an economic description and a legal classification of the two manipulation strategies named above (section B). Subsequently, the incentives of market participants to actually engage in the manipulation strategies introduced before are examined in section C. of this chapter. This work´s approach uses the tools of industrial organization[395] and game theory[396] to analyze the market participants´ incentives and optimal pricing strategies under the existing oligopoly situation. With the help of this analysis, it will be shown that pricing above the competitive level is – from an economic point of view – an optimal choice for firms in this market during the period of examination. It was hence likely that an oligopoly firm chose a manipulation strategy if the law did not actually prevent such behavior.

Past regulatory efforts to reach efficient deterrence of market manipulations by way of detection, proof and punishment of both the European Commission and the German FCO

[394] Robert Bernhard Reich, University of California, Berkeley.

[395] The field of industrial organization examines interactions between markets and firms. In its traditional branch, industrial organization acts on the assumption that market structure influences the behavior of participants in the market, which results in a (then predictable) market outcome (so-called Structure-Conduct-Performance Paradigm), see for example Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer, 2004), 1-3.

[396] Game theory treats strategic interaction of agents and is therefore widely used for the economic analysis of firm behavior in oligopolistic markets, see Hal R. Varian, *Intermediate Microeconomics* (New York: W.W. Norton & Company, 2006), 504.

will be presented in section D. It will be shown, that despite reasonable suspicion by market participants and competition authorities, manipulations could not be proved until now. Section E of this chapter summarizes and concludes.

B. The Nature of Physical and Financial Capacity Retention

This section introduces the two types of capacity retention, starting with an economic description of each of the strategies. The following legal classification is based on the economic behavior innate to the strategies and investigates whether the prerequisites of Art. 102 TFEU and Sec. 19 GWB are fulfilled.

I. Economic classification of capacity retention

With regard to competitive markets, economic theory as treated in the first chapter[397] teaches that all profit-maximizing firms should offer any capacity that can be sold for a price (p*) at or above short-term marginal cost (c_v) in the market in order to earn a contribution to profit ($\prod$):[398]

$$\text{Sell, if: } p^* \geq c_v$$

$$\text{and earn } \prod = p^* - c_v.$$

As discussed in the preceding chapters, firms possessing market power maximize their profits by reducing the quantity offered, expecting the prize to go up and increase the profits earned on the amount sold.[399] In the case of power, plant operators may **retain capacity physically** in order to increase the market price for their product.

With regard to the EEX pricing mechanism, the merit order, plant operators forgo the supply of plant capacity with low marginal cost (c_{vlow}). As a result, the marginal plant needed to cover market demand becomes a more expansive one with regard to its marginal cost of production (c_{vhigh}).[400] Therefore, any capacity is sold at this higher marginal cost in this point of time, the market equilibrium price (p**) increases:

$$c_{vhigh} = p^{**} > p^*.$$

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[397] See the first chapter, part D.II.4.c) of this work.

[398] Christian Jungbluth and Jörg Borchert, "Möglichkeiten der Strompreisbeeinflussung im oligopolistischen Markt", *ZNER*, Vol. 12, no. 4 (2008), 316.

[399] Matthias Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig", *ZNER*, Vol. 12, no. 4 (2008), 300.

[400] Christian Jungbluth and Jörg Borchert, "Möglichkeiten der Strompreisbeeinflussung im oligopolistischen Markt", *ZNER*, Vol. 12, no. 4 (2008), 317. Likewise Oliver Brunke, Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange (Frankfurt am Main: Peter Lang, 2011), 103.

Plant operators with low cost facilities earn a higher profit on any MWh of power sold. This strategy is therefore profitable for operators possessing a highly diversified portfolio of plant types, thus a mixture of base load power generation plants (e.g. nuclear power) and intermediate and peak load power generation plants (e.g. based on fuel fossils or gas).[401] By retaining low cost plants from the market, they forgo the profit made with these plants (Π_{low}) in anticipation of higher profits earned on the (low-cost) plants still offered in the market (Π_{high})[402]:

$$\Pi_{low} \leq \Pi_{high}$$

$$\Sigma\ (p^* - c_{vlow}) \leq \Sigma\ (p^{**} - c_{vlow}).$$

The following figure illustrates this context again:

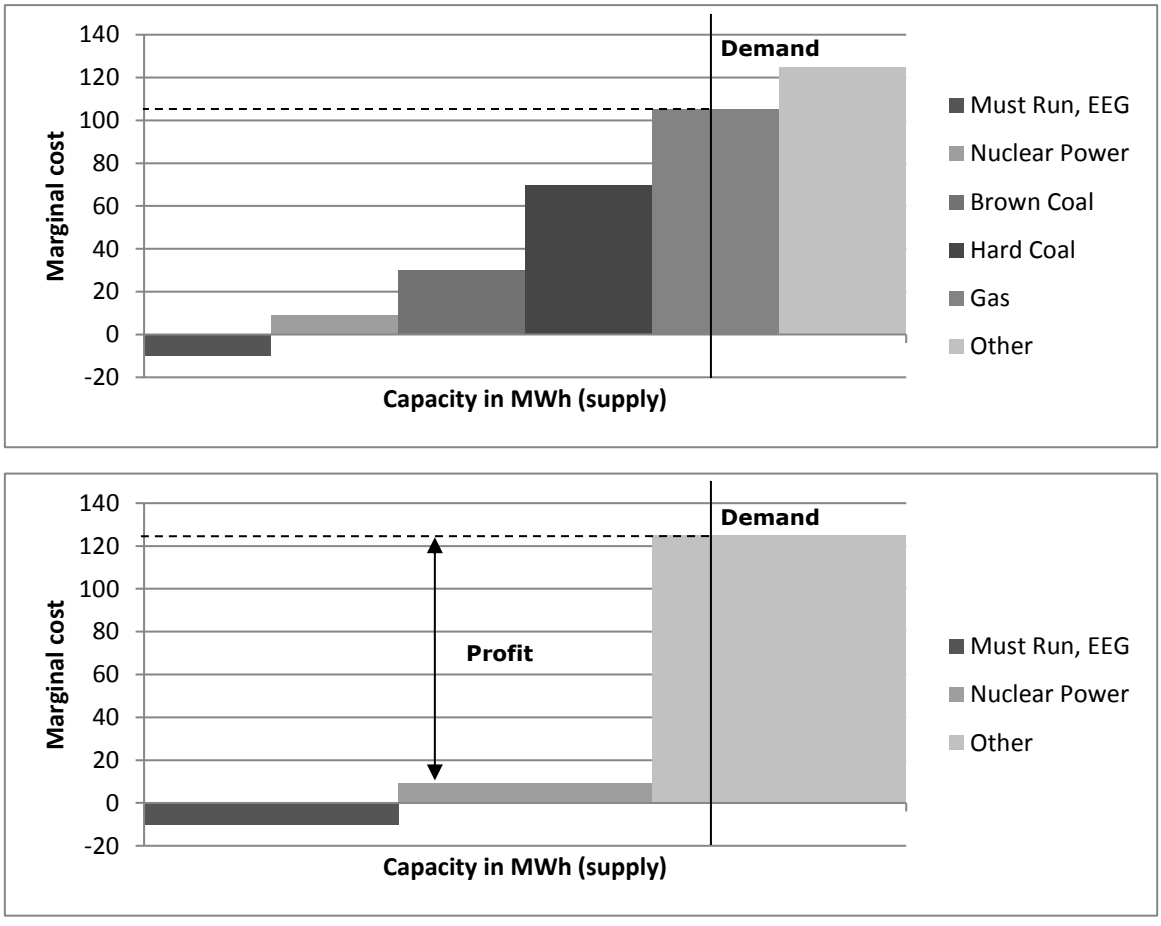

Figure 14: Physical capacity retention and the merit order

[401] The huge power plant operators like E.ON possess such a diversified portfolio, see Matthias Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig", *ZNER*, Vol. 12, no. 4 (2008), 299.

[402] See for example Christian Jungbluth and Jörg Borchert, "Möglichkeiten der Strompreisbeeinflussung im oligopolistischen Markt", *ZNER*, Vol. 12, no. 4 (2008), 317. Also Oliver Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 104. With reference to Frank Dohmen and Klaus-Peter Kerbusk, "Kartell der Abkassierer," *Der Spiegel* Vol. 60, no. 45 (2007), 106.

The upper part of the illustration shows the situation without capacity retention as pictured in figure 10 on page 42. The price for current in this exemplary hour is dependent on the production cost of the marginal plant necessary to satisfy demand, which is gas. Therefore, the equilibrium price is at 105. In contrast, the lower part of the illustration shows a situation where all brown coal, hard goal and gas capacity is taken out of the market, but more EEG/must run capacity and nuclear power is offered. The satisfaction of market demand requires, however, more expansive power stations to be turned on, which drives the market price for electricity up to 125. In the example, plant operators running nuclear power stations earn a profit in the amount of the difference between the market price (125) and their marginal production cost (9) per MWh.

In conclusion, it shows that it can be a profitable strategy to forego profits from the sale of low production cost installations´ capacity (in the example brown coal, hard coal and gas) in order to drive the market price up and generate higher profits from an increased margin between market price and production cost for any plant running.[403]

Physical capacity retention is disguised in diverse manners: Technical restrictions, excessive provision of balancing energy, repurchase of energy already sold in long-term contracts and other.[404] In many cases, external observers are unable to decide whether a market participant´s behavior serves legitimate or manipulative purposes[405], which makes the proof of manipulations a challenging task to the regulator.

The closely related strategy of **financial capacity retention** pursues the same objective, however using a slightly different approach. The above-described shift in the merit order is achieved through markups (m), which are added upon the marginal cost of production (c_v). These markups are designed in a way such that the power station x in question will not be in demand in the market equilibrium:[406]

$$c_{vx} + m = c_{vxm} \text{ and}$$

$$c_{vxm} > p^*.$$

Instead, the installation (x) concerned is replaced by a seemingly cheaper one (y) according to the merit order mechanism. The market price for power increases:

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[403] Harald Schumann, "E.on soll Strombörse manipuliert haben", *Die Zeit* Vol. 64, no. 11 (2009).
[404] Matthias Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig", *ZNER*, Vol. 12, no. 4 (2008), 300.
[405] However, in some cases energy traders revealed their preferred strategies, see for example Harald Schumann, "E.on soll Strombörse manipuliert haben", *Die Zeit* Vol. 64, no. 11 (2009).
[406] See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 117.

$$c_{vx} < c_{vy}, \text{ but}$$

$$c_{vx} + m > c_{vy}, \text{ therefore}$$

$$c_{vy} = p^{**} > p^{*}.$$

Just as for the case of physical capacity retention, this strategy is attractive to plant operators with a diversified portfolio of plant types. The operator foregoes profits from comparably cheap installations for the sake of higher profits earned on all of his remaining installations running. The graphic analysis illustrates the case again:

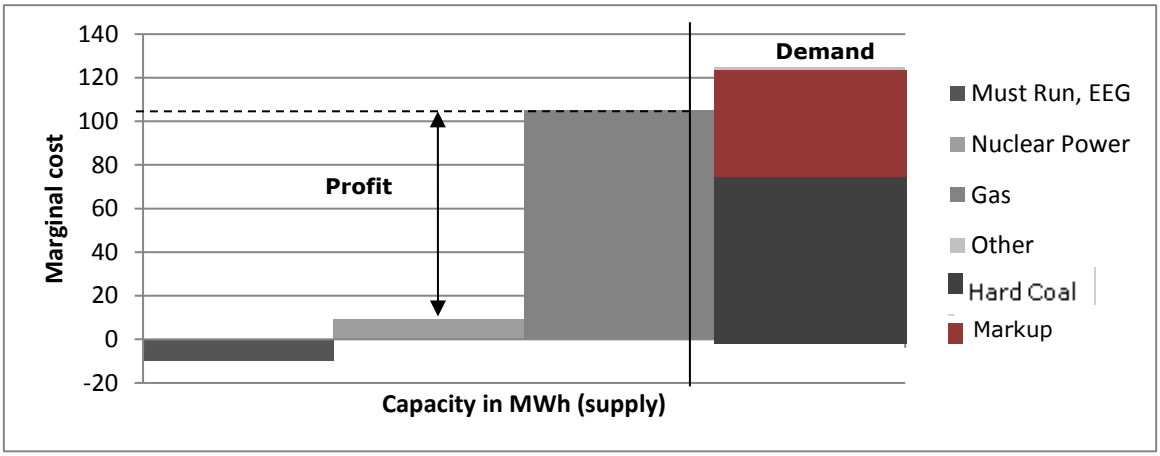

Figure 15: Financial capacity retention and the merit order

In the graphical example, there is a margin of 55 on the price of hard coal. As a result, hard coal appears to be costlier than gas and is replaced by gas in the merit order. The market equilibrium price increases from 70 to 105, operators earn a considerable profit on any MWh sold of all cheaper plants running and being offered in the market.

Financial capacity retention is also possible in slightly altered scenarios, e.g. raising the price of the marginal power station for a certain hour of trading. In this case, the merit order does not change, yet the market equilibrium price and the profits earned on all plants running do.[407]

Both strategies, physical and financial capacity retention, have in common that marketable capacity is taken out of the market – either by retaining it or artificially raising its price.[408] Sellers possessing market power earn a profit on any MWh sold at the increased market

[407] Christian Jungbluth and Jörg Borchert, "Möglichkeiten der Strompreisbeeinflussung im oligopolistischen Markt", *ZNER*, Vol. 12, no. 4 (2008), 318.
[408] Monopoly Commission, Sondergutachten 59 – Energie 2011: Wettbewerbsentwicklung mit Licht und Schatten, 6 Ref. 12. See also Commission of the European Communities, Commission staff working document accompanying the Communication frethe Commission, Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), SEC(2006) 1724, 133 Ref. 403.

price, whereas buyers suffer from the excessive prices.[409] The next sections will subsume this abusive behavior under the existing laws in the fields of antitrust (II.) and capital market law (III.) and examine their qualification to prevent manipulations of the market prices.

II. Legal classification of capacity retention: Antitrust

The legal classification of the various forms of capacity retention focuses on the field of antitrust violations according to Art. 102 TFEU and Sec. 19(2) N° 2 GWB. Based on the foundations of European and German antitrust laws presented in Chapter 1[410], the criterion of market power has to be proved as a precondition for the abuse provisions to apply. For the example of EEX manipulations chosen in this work this means: Only if a dominant position in the primary market for power generation can be proved, manipulations according to Art. 102 TFEU respectively Sec. 19(2) N° 2 GWB may be considered in a second step.

1. Market power in the primary market for power

a) The relevant product market

The identification of market power requires the definition of the relevant market according to the criteria pointed out in Chapter 1.[411] With regard to the definition of the **relevant product** traded, the German antitrust authorities discriminate between the primary market for power (power producers) and the secondary market (sale to end customers).[412] The relevant primary market comprises the first-time sale of the electricity suppliers´ own production, as well as net imports of electricity.[413] Wholesale traders are excluded from this definition, since it focuses on the **physical supply** of power, which is exclusively determined, by the production and imports.[414] Pure commercial transactions

[409] Axel Ockenfels, "Strombörse und Marktmacht," *et* Vol. 57, no. 5 (2007), 48.
[410] See Chapter 1 E. II. of this work for details.
[411] See Chapter 1 E.II.1.a) and 2.a).
[412] This distinction is made since the 2006 decision of the FCO in the merger prohibition case E.ON/Eschwege and has been confirmed by both the Higher Regional Court (OLG) Düsseldorf and the Federal Court of Justice. See FCO decision from September 12, 2003. B 8 – Fa – 21/03. Also OLG Düsseldorf, decision from June 6, 2007. VI-2 Kart 7/04 (V) "E.ON/Eschwege". German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege".
[413] German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege", Ref. 15 et sqq.
[414] German Federal Court of Justice in "E.ON/Eschwege", Ref. 18. With reference its decision from October 5th, 2004. KVR 14/03 "Staubsaugerbeutelmarkt".

of power stay without influence on the quantity offered in the market. Also, pure transactions are unable to exert influence on the competitive situation in the primary market, since wholesale traders need to buy power from the producers respectively importers before they can offer power in the market. Therefore, this group of traders cannot be examined on the same trade level with the producers.[415] As a result, the relevant product market for the first-time sale of power includes the following commodities:

- Actual physical production of power (as opposed to the capacity theoretically available with regard to the existing power stations), and
- net total imports of power to Germany.[416]

On the European level, the German product market definition has been approved in 2006 by the European Commission in its sector inquiry.[417]

In its 2011 sector inquiry, the FCO further defines the German primary electricity market, making two important restrictions: Balancing energy and the production from renewable sources (EEG) are excluded from the market. With regard to **balancing energy**, the FCO argues that this product aims at capacity provision, whereas the wholesale market is targeted on the delivery of power. Furthermore, the demand situation differs from the one found on the wholesale market: Balancing energy is demanded only by the four transmission network operators in Germany, who cover their demand in separate auctions according to the applicable law.[418] As a result, there is no substitutability for balancing energy products with power from the wholesale market. The European Commission follows the same logic in its decisions.[419]

Furthermore, the FCO excludes the production and marketing of **power from renewable sources** from the primary market for power.[420] The Renewable Energy Act (EEG) prescribes a necessity for network operators to connect plant operators to the grid and buy

[415] German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege", Ref. 19.
[416] Summarizing the definition of the market: Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 69-70.
[417] European Commission, DG Competition, Report on the Energy Sector Inquiry, SEC (2006) 1724, 397 et sqq.
[418] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 71 et sqq. The auction requirement is codified in Sec. 22 et sqq. EnWG and Sec. 6 et sqq. StromNZV.
[419] European Commission, decisions from November 26, 2008. COMP/39.388 "Deutscher Stromgroßhandelsmarkt" and COMP/39.389 "Deutscher Regelenergiemarkt".
[420] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 73.

their power production at legally fixed rates with priority.[421] Also the sale of power stemming from EEG installations is subject to legal rules in the AusglMechV.[422] Therefore, production of power from renewable sources is independent from demand and the situation on the wholesale market.[423] Indeed does the quantity of EEG power influence the equilibrium price in the market, since conventional power stations are replaced by cheap EEG power (so-called merit order effect).[424] However, the transmission network operators marketing the EEG power do not act as competitors in the market, since the system leaves them no room for decisions on quantity and price.[425] The EEG amendments from August 2011, in particular the possibility for EEG installation operators to sell their power individually at the exchanges instead of earning the legally guaranteed payment (Sec. 33a to 33i EEG), might change this situation in the future.[426] However, the incentives for operators to build energy storages and manage their power feed into the grids in order to optimally market their power at the exchanges are low.[427]

This argument, however, is not undisputed. *Säcker* criticizes that competitive effects of the EEG must be considered.[428] In the short term, the price-dampening effect of EEG power feed-in (merit-order effect) influences the market participants´ behavior. In the long term, investment decisions depend on the legal framework for EEG power production and feed-in. Säcker points out that even the FCO has admitted an influence of EEG power on the market.[429] However, the FCO convincingly demonstrates the lacking liberty of action for network operators in determining price and quantity of EEG power feed-in.[430] The mere existence of a competitor, who is, however, not equipped with the very basic liberty to choose quantity and price offered in the market, is not sufficient to justify the claim that EEG power would exert remarkable influence on the competitive situation in the power market.

To date, therefore, the exclusion of power stemming from EEG installations from the relevant product market as practiced by the FCO is convincing. Summarizing, the relevant

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[421] See the explanation in Chapter 1 E.I. for details.

[422] Jens-Peter Schneider, *Recht der Energiewirtschaft. Praxishandbuch*, 3rd ed., ed. Jens-Peter Schneider and Christian Theobald (München: C.H. Beck, 2011), 1233ff.

[423] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 73-74.

[424] Ben Schlemmermeier, Carsten Diermann, Eyk Bösche, and Tobias Haberland, "Stromgroßhandelsmarkt aus zwei Perspektiven betrachtet: Erzeuger und Vertriebe", *Explorer Markttrends* no. 12 (2010), 7.

[425] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 73.

[426] Florian Valentin, "Das neue System der Direktvermarktung von EEG-Strom im Überblick", *ree* Vol. 2, no. 1 (2012), 11.

[427] Monopoly Commission, Sondergutachten 59 – Energie 2011: Wettbewerbsentwicklung mit Licht und Schatten, 10 Ref. 22.

[428] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et* Vol. 61, no. 4 (2011), 75.

[429] Ibid. With reference to Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 249 et sqq. and 73.

[430] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 73.

product market for power in European and German competition law includes the following products:

- Actual physical production of power, and
- net total imports of power to Germany.

Excluded from the primary market are:

- Balancing energy, and
- power stemming from renewable resources (EEG).

b) The relevant geographical market

The relevant geographical market for the first-time sale of power includes the German territory. Both, German courts[431] and the European Commission[432] have confirmed this established practice of the FCO.[433] The main reason for the geographical limitation to Germany is the lack of sufficient cross-border transmission capacity.[434] Competition from foreign power producers is therefore limited physically, since no noteworthy quantity can be imported to Germany.[435]

The FCO makes an exception with regard to Austria. In the years from 2007 to 2009, all cross-border transactions could be carried out, congestions were not observed.[436] With regard to power trade, the FCO points out that the EEX has become the leading exchange for Austria, furthermore, there is just one EPEX day-ahead price for both countries.[437] The German Monopoly Commission supports the FCO opinion[438]. However, a recent analysis of

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[431] OLG Düsseldorf, decision from June 6, 2007. VI-2 Kart 7/04 (V) "E.ON/Eschwege". German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege".

[432] European Commission, decisions from November 26, 2008. COMP/39.388 "Deutscher Stromgroßhandelsmarkt" and COMP/39.389 „Deutscher Regelenergiemarkt". See also Commission of the European Communities, Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), SEC(2006) 1724, 5.

[433] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 74.

[434] For a comprehensive analysis of the current situation, see Nina Vrana, *Interkonnektoren im Europäischen Binnenmarkt* (Baden-Baden: Nomos Verlagsgesellschaft, 2012). See also Commission of the European Communities, Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), SEC(2006) 1724, 6.

[435] German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege", Ref. 22.

[436] Monopoly Commission, Sondergutachten 54 – Strom und Gas 2009: Energiemärkte im Spannungsfeld zwischen Politik und Wettbewerb, 25 Ref. 48.

[437] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 78.

[438] Monopoly Commission, Sondergutachten 59 – Energie 2011: Wettbewerbsentwicklung mit Licht und Schatten, 6 Ref. 10.

the electricity wholesale sector suggests that in particular with regard to the coupled markets with the Netherlands, Belgium, and France, Germany is sufficiently interconnected.[439] Yet, the study has been conducted as an ex-post analysis and using a static system with restrictive assumptions that are frequently disproved by practical observations.[440] The findings of the ESMT study can therefore not serve as proof of an European integrated wholesale market, as the FCO correctly claims. In conclusion, the relevant geographical market for first time power sale includes Germany and Austria.[441]

c) Dominance of the power market

The definition of the relevant product and geographic market conducted in the preceding chapter is the relevant point of reference for the examination of market dominance in the wholesale market. In the German power market, two forms of market power have to be discussed:

- The existence of a dominant oligopoly by the four established producers E.ON, RWE, EnBW, and Vattenfall or a subset of this group, and
- a possible dominance by each of the four firms solitarily.

As already outlined in the first chapter, dominance in the light of European and German antitrust laws refers to a position that enables firms to behave independently of their competitors and exert perceptible influence on the market output level and price.[442] The following subsections will elaborate the indicators for the two cases of collective and individual dominance and judge whether the oligopoly firms and/or the individual firms needed to be considered as dominant in the wholesale market during the time horizon of this examination (2004 to 2009).

aa) Collective market dominance – the oligopoly case (Sec. 19(2) GWB)

Sec. 18(5) GWB stipulates that two or more firms may be collectively dominant on a market if

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[439] ESMT, The Electricity Wholesale Sector: Market Integration and Competition. Study from January 13, 2010, 21. Available at www.esmt.org/en/271646.
[440] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 85-86.
[441] This finding has recently been confirmed: Monopoly Commission, Sondergutachten 71 - Energie 2015: Ein wettbewerbliches Marktdesign für die Energiewende, 2015, 30 Ref. 48.
[442] For the European Court of Justice definition of market dominance, please refer back to Chapter 1 E.II.1.a).

(1) no substantial competition exists between them with respect to certain kinds of goods or commercial services, and

(2) they comply in their entirety with the requirements of paragraph 1, which states that firms are without competitors or in a paramount market position.[443]

Sec. 18(6) N° 1 GWB contains a presumption for market dominance if three or less undertakings reach a combined market share of at least 50 percent. For five or fewer undertakings, the threshold for the presumption of dominance is at two-thirds, Sec. 18(6) N° 6 GWB.

Concerning the German power market, European[444] and German[445] court decisions have already come to the conclusion that at least a duopoly consisting of E.ON and RWE dominated the wholesale market. In 2008, the European Commission even suggested that three companies, namely E.ON, RWE, and Vattenfall, formed an oligopoly in the German wholesale market for power.[446] Indicators for lacking competition between the two companies were vertical integration on both sides, the behavior observed on the power markets, corporate integration between RWE and E.ON on the one hand, but also between RWE/E.ON and EnWB on the other hand, high market shares at power production capacity as well as net power production, a considerable distance to competitors in the market and the homogeneity of power as a product, combined with transparency of prices at the power exchange.[447] At large, this strong evidence made the Federal Court of Justice assume a paramount market position of the duopoly E.ON/RWE.[448]

The further question whether the duopoly consisting of E.ON and RWE would rather have to be qualified as an oligopoly, also including EnBW and Vattenfall, is not answered by the tribunal. The FCO, however, in its sector inquiry, identified several indicators that suggest the existence of an oligopoly in the wholesale market for power in the relevant period[449]:

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[443] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 988 Ref. 26.
[444] European Commission, decisions from November 26, 2008. COMP/39.388 "Deutscher Stromgroßhandelsmarkt" and COMP/39.389 "Deutscher Regelenergiemarkt".
[445] German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege".
[446] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et*, Vol. 61, no. 4 (2011), 76.
[447] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 89. With reference to German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege", 18 et sqq. For the relevance of the indicators named see Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 989 Ref. 27.
[448] German Federal Court of Justice, decision from November 11, 2008. KVR 60/07 "E.ON/Eschwege", 25.
[449] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 95.

- The development of market shares with regard to installed capacity and feed into the grids since 2007, and
- the degree of concentration measured using the Herfindahl-Hirschmann-Index (HHI).

The underlying data with regard to **market shares** yields by far the highest installed capacity and net power production by E.ON, RWE, Vattenfall and EnBW in the years since 2007.[450] The following chart presents a summary of the data, a market volume of 100 percent has served as a reference. The values are rounded.[451]

	2007		**2008**		**2009**	
SUPPLIER	**CAPACITY**	**FEED-IN**	**CAPACITY**	**FEED-IN**	**CAPACITY**	**FEED-IN**
EnBW	12 %	12 %	12 %	11 %	14 %	14 %
E.ON	23 %	23 %	23 %	22 %	19 %	21 %
RWE	34 %	35 %	33 %	36 %	31 %	31 %
Vattenfall	17 %	17 %	16 %	15 %	16 %	16 %
Sum	**85 %**	**86 %**	**84 %**	**84 %**	**80 %**	**82 %**

Table 2: Installed capacity and feed-in by the established energy suppliers in percent

The summed numbers presented in table 2 exceed a combined market share of two thirds for the four companies listed. The assumption of collective dominance in Sec. 18(6) N° 2 GWB is therefore confirmed for the years 2007 to 2009.[452] However, the dominance assumption can be disproved by way of evidence for existing competition between the dominant firms and a notable competitive position of the residual firms, Sec. 18(7) GWB.[453] In its sector inquiry, the FCO examined the competitive environment of the oligopoly firms,

[450] The inquiry included power plants owned by the companies, shares in joint plants and contractual long-term buying options for plant capacity. See ibid, 90.
[451] For the exact values, especially reports of the MW of capacity installed and the TWh feed-in see ibid, 90, 94.
[452] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 990 Ref. 29.
[453] Ibid, 989 Ref. 28.

coming to the conclusion that various structural similarities suggest an alignment of interests and ultimately restraints of competition.[454] The FCO considers the preconditions established by the European Court of First Instance in its decision *Airtours v Commission*[455] for oligopolized markets to be met.[456] Due to the oligopolistic interdependence of the four firms, permanent uniform behavior of the oligopoly is expected.[457]

Säcker contradicts the FCO claims, pointing out that the market position namely of E.ON and RWE changed considerably lately through the abandonment of several minority stakes in municipal suppliers, headmost in the case Thüga[458].[459] Moreover, Säcker stresses the influence of the European unbundling specifications on the market structure. Eventually, his paper suggests that under these changing conditions, not even the duopoly argument can be maintained.[460] This claim is based on a study by Frontier Economics from 2010 that sees an erosion of market shares for both E.ON and RWE.[461] This study – a commissioned work for the E.ON group – does however treat possible future scenarios for the market development. By contrast, the FCO data for the situation in 2007 to 2009 does not leave room for an interpretation that sees any erosion in the market shares of E.ON and RWE. Quite the contrary is true: Table 2 shows, that market shares kept stable at high levels exceeding 80 percent for both installed capacity and production.

With regard to the **HHI concentration measure**, the FCO identified values easily exceeding the threshold of 1.800 that account for highly concentrated markets.[462] Both, with regard to installed capacity and quantity produced, the power market´s HHI values suggest high concentration of the industry.[463]

Based on this robust evidence and in line with German and European jurisprudence, the German antitrust authority dismisses its former duopoly assumption for the power market

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[454] These are namely vertical integration of the firms, corporate integration, the homogeneity of power as a commodity, and the huge distance with regard to market shares to the remaining competitors in the market. See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 95. Also Franz Lamprecht, "Sektoruntersuchung Strom: Kein Marktmachtmissbrauch, aber Wettbewerbshemmnisse", *et,* Vol. 61, no. 1/2 (2011), 48.

[455] Airtours v Commission. Case T-342/99. European Court Reports 2002, II-2585 (2002).

[456] The criteria do largely comply with the indicators for lacking competition listed on the last page. The predominant idea is to make a prediction on the probability of coordinated actions by market participants.

[457] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et,* Vol. 61, no. 4 (2011), 79.

[458] Federal Cartel Office, Decision from November 30, 2009. N° B8-107/09.

[459] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et,* Vol. 61, no. 4 (2011), 81.

[460] Ibid.

[461] Frontier Economics, Marktkonzentration im deutschen Stromerzeugungsmarkt, 2010. Available online at http://www.eon.com/content/dam/eon-com/download/dwn-news/9949_431/RPT_Frontier_EON-Konzentrationsanalyse_Final_20102010__stc.pdf.

[462] Paul A. Samuelson and William D. Nordhaus, *Economics* (Singapore: McGraw-Hill, 2005), 185.

[463] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 91.

in favor of the claim, that the wholesale market for power is **dominated by an oligopoly** formed by E.ON, RWE, Vattenfall and EnBW in the period of examination.[464]

Only in 2015, when the Monopoly Commission presented an updated calculation of the concentration measures in its expert opinion, things slightly changed. For the year 2014 that the data refers to, the Monopoly Commission came to the conclusion that there was no collective dominance of the former oligopoly with regard to the RSI method.[465] However, it considered the market still to be highly concentrated – especially with regard to a market share of 62 percent of the former oligopoly firms[466] – and expected new market power problems in the near future due to closures of plant capacity.[467] The numbers concerning the market shares are confirmed by the Federal Network Agency data for the year 2014: The combined market share with regard to production capacity for E.ON, RWE and Vattenfall reached 51 percent[468] and hence still fulfilled the requirements of the dominance presumption in Sec. 18(6) N° 1 GWB. Having regard to the actual production quantity, even the oligopoly presumption for all four huge suppliers (Sec. 18(6) N° 2 GWB) was still fulfilled: E.ON, RWE, Vattenfall and EnBW reached a combined market share of 67 percent in 2013 and 2014.[469] The following analysis will therefore operate on the basis of the oligopoly presumption for the examination period.

bb) Individual market dominance by E.ON, RWE, Vattenfall and EnBW

In addition to collective market dominance, European and German antitrust laws also know the concept of individual market dominance by one or more firms, Art. 102 TFEU, respectively Sec. 18(1) GWB.[470] According to the German Federal Court of Justice, even several companies in the same market may be dominant individually if any of them has a market position allowing for noticeable influence on market price and quantity.[471] The European Court of Justice decides equally.[472]

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[464] Peter Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel des Bundeskartellamts: Ausgezeichnete Analyse, unzureichende Konsequenzen", *ZNER* Vol. 15, no. 2 (2011), 116.
[465] Monopoly Commission, Sondergutachten 71 - Energie 2015: Ein wettbewerbliches Marktdesign für die Energiewende, 2015, 43-44 Ref. 77.
[466] Ibid, 33-36 Ref. 55.
[467] Ibid, 50 Ref. 91.
[468] Federal Network Agency, Monitoringbericht 2015, 2015, 38.
[469] Ibid, 36.
[470] Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 901 Ref. 10 et sqq.
[471] German Federal Court of Justice, decision from March 3, 2009. KZR 82/07 "Reisestellenkarte", 13.
[472] Radio Telefis Eireann (RTE) and Independent Television Publications Ltd. (ITP). Cases C-241/91 and C-242/91. European Court reports 1995, 743 (1995).

As for the case of collective market dominance, the German code contains a dominance presumption for companies whose share in the relevant market reaches 40 percent, Sec. 18(4) GWB. In its guidance paper on the enforcement priorities in applying Art. 82 ECT (now Art. 102 TFEU), also the European Commission states a market share of 40 percent as a threshold for dominance.[473] Neither data from 2009 nor recent numbers from 2014 do identify any of the companies considered in this work as presumably dominant.[474] Anyhow, both the German and European authorities recognize that in specific cases below the threshold a powerful market position may develop and require official attention.[475]

In the here relevant case of exploitative abuses, dominance below the threshold may be assumed if dependence of the consumers on the market concerned can be proved – the powerful company operates as unavoidable trading partner.[476] The FCO employs the so-called **Residual Supply Index (RSI)** concept that has been developed specifically for power markets[477] as a tool to demonstrate the nature of E.ON, RWE, Vattenfall, and EnBW as pivotal suppliers.[478] This indicator measures the importance of a supplier for the satisfaction of market demand. It is defined as follows:

$$RSI_i = \frac{\text{Aggregate capacity - Capacity}_i}{\text{Aggregate demand per unit of time}}$$

Hence, the index measures whether the aggregate capacity offered in the market after subtraction of the capacity fed in by supplier i is sufficient to satisfy demand at a certain point in time.[479] Values smaller than 1 indicate that company i is indispensable for the satisfaction of aggregate market demand. Market power, in contrast, is already presumed in cases where the RSI yields values smaller than 1.1 in more than five percent of the

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[473] European Commission, Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. EU Official Journal from February 24, 2009 C 45, 9 Ref. 14.

[474] See table 2 of this work. Also refer to Federal Network Agency, Monitoringbericht 2015, 2015, 36 et sqq. for recent data.

[475] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 96. European Commission, Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. EU Official Journal from February 24, 2009 C 45, 9 Ref. 14.

[476] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 96. With reference to Thomas W. Wesseley, *Frankfurter Kommentar zum Kartellrecht*, 3rd Vol. Art. 82 EG, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt KG, 2011), 42 Ref. 87.

[477] The index measures market power in power markets in view of the special conditions on these markets like the impossibility of storage, short-term inelastic demand etc. For details please refer back to the first chapter, section D.II.2. of this work. For the advantages of the RSI concept as compared to the traditional HHI see David Newbery, "Predicting Market Power in Wholesale Electricity Markets", *EUI Working Paper*, no. RSCAS 2009/03.

[478] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 97.

[479] Anjali Sheffrin, "Critical Actions Necessary for Effective Market Monitoring" *Draft Comments Department of Market Analysis*, California ISO, FERC RTO Workshop, October 19, 2001, 8.

hours observed. The market dominance presumption in the RSI concept is fulfilled if values smaller than 1.0 are being observed.[480]

In the 2011 sector inquiry, the FCO calculated RSI values for the four huge suppliers hourly. Values smaller than 1.1 could be observed in far more than five percent of the hours in the period of examination; furthermore, values smaller than the 1.0 threshold were found in a considerable amount of hours. The following chart pictures the relevant findings of the FCO for the years 2007 and 2008.[481]

	RSI < 1.1		**RSI < 1.0**	
SUPPLIER	**2007**	**2008**	**2007**	**2008**
EnBW	49.1 %	25.7 %	14.2 %	1.6 %
E.ON	71.8 %	50.5 %	50.5 %	27.8 %
RWE	93.6 %	73.8 %	77.8 %	55.9 %
Vattenfall	55.1 %	30.6 %	27.7 %	7.2 %

Table 3: Hours with RSI values smaller than 1.1 and 1.0 in 2007 and 2008 in percent

Hence, except from EnBW in 2008, all four established suppliers needed to be considered pivotal, headmost RWE.[482] As for any other presumption of dominance, the FCO acknowledges a possible disprove of dominance through actual competitive conditions on the market. E.g., the authority recalculates values for the integration of the Austrian capacity in the market[483], and examines changes in the results with regard to the development in the years following 2009.[484] Still, the authority affirms individual market power for at least three of the four established suppliers: E.ON, RWE, and Vattenfall. Regarding EnBW, a final decision is not made.[485] This conclusion was reinforced through the circumstance that only the four companies named owned capacity covering the whole of the merit order, thereof a considerable number of nuclear power plants.[486]

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[480] David Newbery, "Predicting Market Power in Wholesale Electricity Markets", *EUI Working Paper* no. RSCAS 2009/03, 4. Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 98-99. Refer also to Annette Loske, "Funktionieren die Großhandelsmärkte für Strom?," *et* Vol. 57, no. 9 (2007), 8.

[481] For the definition of the RSI variables please refer to Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 99-103.

[482] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 104-105.

[483] Ibid, 110-112.

[484] Ibid, 112-113.

[485] Ibid, 113-114.

[486] In fact, in Germany only the four established power suppliers E.ON, RWE, Vattenfall and EnBW own nuclear power plants. See Anita Blasberg, Matthias Geis, Tina Hildebrandt, Anna Kemper, Roland Kirbach, Henning

Criticism is put forward by Säcker – he makes three major points of critique:[487]

- The FCO did not subtract capacity that is bound through agreed power provision, long-term contracts, and futures contracts. This deviation from the original RSI concept put forward by the CAISO[488] results in too high market shares computed for the companies.

- The disregard of EEG capacity and feed-in from installations performing with less than 25 MW entails the risk of considerable divergences from the situation in the real market.

- The FCO bases its legal judgment of the market situation solely on the RSI results. This monocausal analysis is in contrary to the German Federal Court of Justice exercise in the cases Phonak[489] and Texaco-Zerssen[490]. A simple conclusion from market structure to market performance[491] is not a sufficient proof for lacking competition, instead, all other circumstances on the market have to be considered.

Yet, the criticism Säcker puts forward is not capable to disprove the FCO analysis. First, it cannot be convincingly shown that the inclusion of capacity from long-term liabilities would yield fundamental changes in the RSI results. A *London Economics* study from 2007[492] also quoted by Säcker calculates RSI values for three different scenarios: One scenario with reserves and long-term contracts included, one accounting for reserves only, but excluding long-term contractual obligations, and one scenario excluding reserves from the calculation.[493] The following table shows the results in an overview:

Sussebach, Wolfgang Uchatius, and Stefan Willeke, "Der Poker um 17 Atommeiler", *Die Zeit* Vol. 66, no. 13 (2011), 19.

[487] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et* Vol. 61 no. 4 (2011), 78-79.

[488] Anjali Sheffrin, "Predicting Market Power Using the Residual Supply Index" Presented to FERC Market Monitoring Workshop December 3-4, 2002.

[489] German Federal Court of Justice, decision from April 20, 2010. Case N° KVR 1/09 "Phonak/GN Store", Ref. 64.

[490] German Federal Court of Justice, decision from October 4, 1983. Case N° KVR 3/82 "Texaco Zerrsen".

[491] Early approach in industrial organization: The Structure-Conduct-Performance Paradigm, see for example Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer, 2004), 1-3.

[492] London Economics, "Structure and Performance of Six European Wholesale Electricity Markets in 2003, 2004 and 2005".

[493] For detailed results on the thress scenarios, please refer to ibid, 292 (Standard scenario) and 298 and 299 (alternative scenarios).

SUPPLIER	Standard scenario	Alternative Scenario 1: Excluding long-term contracts	Alternative Scenario 2: Excluding reserves
0436-S-DE	47.7 %	58.7 %	57.8 %
0569-S-DE	4.6 %	4.1 %	9.1 %
1338-S-DE	77.1 %	55.6 %	85.8 %
1681-S-DE	3.8 %	15.1 %	7.0 %

Table 4: RSI results < 1.1 in percent of time calculated for three different scenarios by London Economics (average of 2003-2005)

In the standard scenario with both, long-term contracts and reserves included, only two of the four huge companies exceed the threshold (5 percent) indicating lacking competition.[494] In the alternative scenarios excluding either long-term obligations or reserves from the calculation, the values change slightly, however indicating market power for three (alternative scenario 1) or even four (alternative scenario 2) firms.[495] Although the data used by London Economics is older than the FCO data, one important conclusion can be drawn: The subtraction of reserves and long-term contractual obligations does not contradict RSI results found in the standard scenario also applied in the FCO study. Therefore, this argument cannot be used to prove the FCO approach wrong.

Second, also the exception of EEG power and small installations might entail a risk of slightly diverging values. Still, the FCO study covers 87 percent of the installations in the German market, which is considered sufficient to draw a sufficiently detailed picture of the competitive conditions in the German wholesale market.[496]

Finally, other than Säcker argues, the FCO does conduct a fairly detailed analysis of the market besides the RSI considerations.[497] In line with the Phonak and Texaco Zerssen jurisprudence, the authority verifies whether the presumption of dominance can be refuted by the actual competitive situation.[498] *Becker* points out that especially the in-depth analysis of the production conditions suggests a powerful position of the four companies individually for many hours of the day.[499] After all, the FCO showed that 80 percent of the

[494] Ibid, 292.
[495] Ibid, 298-299.
[496] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 43.
[497] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et* Vol. 61, no. 4 (2011), 78-79.
[498] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 96-97 and 106 et sqq.
[499] Peter Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel des Bundeskartellamts: Ausgezeichnete Analyse, unzureichende Konsequenzen", *ZNER* Vol. 15, no. 2 (2011), 116.

production capacity was owned by the established companies in 2008.[500] Furthermore, both the FCO and Becker stress the fact that only the four huge electricity suppliers have capacity covering the whole of the merit order at their disposal.[501] Even Säcker acknowledges this structural difference between municipal suppliers and the four huge firms.[502]

The Monopoly Commission supports the application of the RSI concept for the identification of market power in the German wholesale market for power.[503] A more recent RSI analysis carried out by the Monopoly Commission in 2013 suggest that the market power of the oligopoly decreases.[504] In the latest 2015 Monopoly Commission analysis, RSI values do no more suggest a pivotal character of the former oligopoly suppliers.[505] Still, the Commission is aware that the situation in the wholesale market for power is about to change in the event of the expected closures of plant capacity.[506]

After all, the critical discussion of the FCO analysis revealed that the RSI approach, in connection with an examination of the actual competitive situation in the market, is an adequate basis for the judgment of the competitive situation in the power market. In line with the prevailing opinion[507], this work therefore acts on the assumption that in 2007 and 2008 E.ON, RWE, and Vattenfall possessed market power both individually and combined. For EnBW, the case was slightly different, however, for the purposes of this work, it can be left open whether the company did have a powerful market position only in a collective with the remaining three companies or also individually.

With regard to the 2014 RSI data, individual dominance must be denied. However, the market remains concentrated more than 15 years after the liberalization. Moreover, in the future the problem of pivotal suppliers exercising market power may even shift towards small producers in the event of scarce capacity due to the changes currently observed in the power market.[508]

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[500] See the explanation earlier in this work and Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 90.
[501] Peter Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel des Bundeskartellamts: Ausgezeichnete Analyse, unzureichende Konsequenzen", *ZNER* Vol. 15, no. 2 (2011), 117.
[502] Franz Jürgen Säcker, "Marktabgrenzung, Marktbeherrschung und Markttransparenz auf dem Stromgroßhandelsmarkt", *et* Vol. 61, no. 4 (2011), 79.
[503] Monopoly Commission, Sondergutachten 54 – Strom und Gas 2009: Energiemärkte im Spannungsfeld von Politik und Wettbewerb, 15, 65.
[504] Marc Bataille and Susanne Thorwarth, "Die Messung von Marktmacht bei der konventionellen Stromerzeugung," *et* Vol. 63, no. 11 (2013), 66, 68.
[505] Monopoly Commission, Sondergutachten 71 - Energie 2015: Ein wettbewerbliches Marktdesign für die Energiewende, 2015, 43-44 Ref. 77.
[506] Ibid, 50 Ref. 91.
[507] For the European Commission´s position, please refer to Commission of the European Communities, Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), SEC(2006) 1724.
[508] Axel Ockenfels, "Strombörse und Marktmacht," et Vol. 57, no. 5 (2007), 53.

As a result of the above analysis, this work will operate on the assumption that the oligopoly collectively dominated the power market during the period of examination. The GWB abuse provisions may hence be applied.

2. Abuse of market power

In a second step, the GWB and TFEU provisions require an abuse of market power. For the case of capacity retention, Art. 102 lit. a and b TFEU and Sec. 19(2) N° 2 GWB prohibiting the limitation of production and excessive pricing are the relevant provisions. As already outlined in the first chapter[509], inappropriateness of the price charged to the consumers has to be proved. The benchmark for a fair market price is the price observed in a competitive market environment.[510]

As the economic introduction showed, sellers in a competitive market would offer any marketable capacity that can be sold at or above short-term marginal cost in the market to maximize their profit.[511] Conversely, abuse is assumed if a powerful supplier retains capacity that could be sold above short-term marginal cost, thereby expecting the spot market price to increase in order to earn higher profits on its power plant portfolio.[512] Also mark-ups on capacity whose marginal cost of production lies below the market price qualify as abuse.[513] Hence, the law follows the economic rationale presented in the first section of this chapter[514]: Profit-maximizing strategies by firms possessing market power that increase the spot market price to the detriment of the consumers fulfill – if actually practiced by market participants – the criteria of Art. 102 (2) lit. A and b TFEU and Sec. 19(2) N° 2 GWB.[515]

3. Conclusion

Despite this straightforward legal classification of capacity retention, the antitrust authorities face problems to find sound evidence for the various forms of manipulative

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[509] See Chapter 1 section E.II.1.b).
[510] Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 928-933.
[511] See Chapter 1 section D.I.2. The FCO comes to the same conclusion: Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 115.
[512] Ibid.
[513] Ibid, 117.
[514] See Chapter 2 section B.I.
[515] Coming to the same conclusion Selmar Konar, *Wettbewerbskonforme Stromgroßhandelspreise: Eine Untersuchung über die Integrität und Transparenz des Energiegroßhandelsmarkts* (München: C.H. Beck, 2015), 39.

behavior. This is, however, a necessary requirement for penalties, since the burden of proof lies with the authorities. Subsection D. will therefore present two previous approaches to find evidence standing up in court. Beforehand, the following section III. will focus on the field of capital market law and its suitability to cover the manipulative behavior at the energy exchange.

III. Legal classification of capacity retention: Capital market law

Besides the field of antitrust, European and German energy and capital market law contain sanctions for infringements of legal duties and rules of conduct in market environments. This section will examine the application of the European MiFID, MAD and MAR, REMIT, and EMIR rules on the EEX spot market[516] (subsection 1), as well as the German set of rules laid down in BörsG, KWG and WpHG[517] (subsection 2). It will be shown that capital market law offers further means of intervention to deter manipulations of the power market.

1. European energy and capital market law

European capital market law is spread among a number of directives and regulations, the most important of which are MiFID II and MiFIR, EMIR and MAD respectively MAR.[518] In the field of energy law discussed in this work as an example, REMIT contains the core provisions. EMIR regulates OTC trades and clearing requirements between energy traders[519]. It may therefore not apply to manipulations of the EPEX spot and will not be discussed further in this work. MiFID II[520], even if focused on exchange trading of financial

[516] See Chapter 1, section E.III.1. of this work.
[517] See Chapter 1, section E.III.2. of this work.
[518] For the recent changes refer to Alexander Kox, "REMIT, MiFID, EMIR und Co. verschärfen die Anforderungen zur Teilnahme am Energiehandel," *et* Vol. 63, no. 8 (2013). With regard to the delineation between the codes, refer to Chapter 1, section E.III.1. of this work.
[519] Ibid. Also Jörg Spicker, "Der OTC-Handel (Over-The-Counter-Handel)," in *Handbuch Energiehandel*, ed. Hans-Peter Schwintowski, 3nd ed. (Berlin: Schmidt, 2013), 140 Ref. 292.
[520] The directive has been published in the EU Official Journal on June 12, 2014. It will enter into force in January 2017. See the EC Press release from June 12, 2014 accessible at http://europa.eu/rapid/midday-express-12-06-2014.htm?locale=en (Last accessed October 17, 2014).

instruments and energy trading, does concentrate on transparency and liquidity of trading[521] and is therefore also not suited to legally capture and sanction EPEX spot manipulations.

MAD and MAR are applicable to financial instruments exclusively (Art. 1(2) MAD) and exclude spot commodity contracts that are wholesale energy products (Art. 1(4)(a) MAD, Art. 2(2)(a) MAR). The following section a) will therefore concentrate on the REMIT provisions in order to show that capacity retention strategies as introduced in section I. are covered by these norms. For comparably complex manipulation cases in the context of capital markets that are not wholesale energy products, MAD and MAR apply. They will be discussed later in section 2. on German capital market law and in the more general considerations on manipulation deterrence in the third chapter of this work, section B.II.1.b).

a) The Regulation on wholesale Energy Market Integrity and Transparency

REMIT has entered into force on December 28, 2011.[522] It contains a ban of insider trading and market manipulation applicable also on EPEX spot.[523] The European Agency for the Cooperation of Energy Regulators (ACER) supervises the compliance of traders with the REMIT provisions.[524]

Art. 5 REMIT contains the prohibition of market manipulation. The term is defined in Art. 2(2) lit. a REMIT (**action based manipulations**): Any transaction entered into or any order issued in wholesale energy products, which

- gives false or misleading signals with regard to supply, demand or price of wholesale energy products (i),
- secures the price of a wholesale energy product on an artificial level (ii), or

[521] Kox, "REMIT, MiFID, EMIR und Co. verschärfen die Anforderungen zur Teilnahme am Energiehandel," et Vol. 63, no. 8 (2013), 42-43.
[522] Regulation on wholesale Energy Market Integrity and Transparency (REMIT) N° 1227/2011 of the European Parliament and of the Council. Version promulgated on October 25, 2011 (Official Journal L 326, p. 1-16).
[523] Kox, "REMIT, MiFID, EMIR und Co. verschärfen die Anforderungen zur Teilnahme am Energiehandel," et Vol. 63, no. 8 (2013), 44. See also Spicker, "Der OTC-Handel (Over-The-Counter-Handel)," in Handbuch Energiehandel, ed. Schwintowski, 3nd ed. (Berlin: Schmidt, 2013), 135 Ref. 283.
[524] Patric Bachert, "Befugnisse der Bundesnetzagentur zur Durchsetzung der REMIT-Verordnung," *RdE* Vol. 24, no. 9 (2014), 361; Spicker, "Der OTC-Handel (Over-The-Counter-Handel)," in Handbuch Energiehandel, ed. Schwintowski, 3nd ed. (Berlin: Schmidt, 2013).. Refer also to Selma Konar, "Energieregulierung auf Unionsebene - Die Rolle der Europäischen Kommission und der ACER nach der REMIT-VO," *ZNER* Vol. 19, no. 1 (2015), 9-10.

- employs a fictious device or any other form of deception to give false or misleading signals with regard to supply, demand or price of wholesale energy products (iii).

Also, **information-based manipulations** are banned according to Art. 2(2) lit. b REMIT: Disseminating information through the media, which

- gives false or misleading signals with regard to supply, demand or price of wholesale energy products, or
- rumors where the disseminating person knew or ought to have known that the information was false or misleading, or
- the information is disseminated for the purposes of journalism and the disseminator derives an advantage or profits from the dissemination (i) or intends to mislead the market (ii).

Both kinds of manipulative actions have been transposed into German national law and are now codified in Sec. 95 EnWG: Sec. 95 (1b) EnWG refers to action based manipulations and Sec. 95(1c) N° 6 EnWG to information based manipulations.[525] The law makes a reference to the requirements of REMIT without defining the manipulative actions itself.

With regard to capacity retention at EPEX spot, ACER has specified the meaning of the REMIT rules in its 2013 guidance on the application of REMIT with examples of market manipulation involving price positioning:[526]

> *"Actions undertaken by persons that artificially cause prices to be at a level not justified by market forces of supply and demand, including actual availability of production, storage or transportation capacity, and demand ("physical withholding"): This is for example the practice where a market participant decides not to offer on the market all available production […] without justification and with the intention to shift the market price to higher levels, e.g. not offering on the market, without justification, a power plant whose marginal cost is lower than the spot prices, […] that would result in abnormal high prices."*

Also, REMIT itself gives examples of market manipulations in its recitals N° 13 and 14 that include "making it appear that the availability of electricity generation capacity […] is other

[525] Christian Theobald and Antje Werk, in *Energierecht: Kommentar*, ed. Wolfgang Danner and Christian Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 95 EnWG Ref 1 et sqq.
[526] ACER, Guidance on the application of Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency, 2013, 37.

than the capacity which is actually technically available where such information affects or is likely to affect the price of wholesale energy products."[527]

Hence, physical capacity retention strategies may be classified as an infringement of the REMIT ban of market manipulation.

b) Legal consequences

An infringement of the REMIT provisions on market manipulation may result in a punishment according to the rules of administrative offenses, Sec. 95(1b) EnWG. In case of intentional behavior and an actual influence on the price caused, even criminal sanctions may apply, Sec. 95a(1) EnWG. A detailed discussion of sanctions for manipulations according to energy capital market law will be undertaken in the third chapter of this work. It deals with the current and optimal level of fines in order to establish an effective regime of public market surveillance to deter manipulations of the EEX.

c) Conclusion

The REMIT provisions cover capacity retention at EPEX spot. The following section will present an in-depth analysis of capital market rules applicable to EPEX spot market manipulations in German law. Thereafter, the work turns from the classification of the manipulations to the deterrent effect of the rules de lege lata in order to identify shortcomings that weaken the system.

2. German capital market law

As the introductive section E.III. in chapter 1 of this work has shown[528], German capital market law is spread between three codes – the Securities Exchange Act (BörsG), the Securities Trading Act (WpHG) and the German Banking Act (KWG). All of these codes contain sanctions for infringements of their provisions. While KWG sanctions do not cover abusive behavior in electricity trading, the provisions in the BörsG focus on allowances of exchanges and organizational duties rather than the process of trading itself.[529]

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[527] Ibid, 35.
[528] Please refer to chapter 1, section E.III.2. of this work.
[529] Oliver Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 109-110.

With regard to manipulations on the EEX spot market, however, only the WpHG was of some relevance. With the introduction of the MAR provisions in July 2016, Sec. 20a WpHG was cancelled and replaced by the immediately applicable European rules in Art. 12, 15 MAR.[530] Since these rules are largely identical in context with the former Sec. 20a WpHG[531] that was in place during the period of examination of this work and the commentary literature has not yet covered the MAR rules, this work will refer to both, the former Sec. 20a WpHG and Sec. 15 MAR in the following section.

However, one necessary differentiation has to be made: While it will be argued that Sec. 20a WpHG was directly applicable on manipulations on markets for wholesale energy products, the new rules in Sec. 12, 15 MAR are explicitly not, Art. 2(2)(a) MAR. Therefore, Sec. 20a WpHG will be presented in depth due to its applicability during the period of examination and reference to Art. 12, 15 MAR will be made to illustrate the legal situation in comparably complex capital market manipulation cases.

a) The prohibition against market manipulation in Art. 12, 15 MAR (formerly Sec. 20a WpHG)

The capital market law provisions of greatest relevance for this work are Art. 12, 15 MAR (formerly Sec. 20a WpHG): Art. 15 MAR states the prohibition of market manipulation, concretized by definitions and exemplary manipulation scenarios in Art. 12 MAR. Art. 12, 15 WpHG are accompanied by penalty rules for their infringement: Sec. 39 WpHG, which is designed as an administrative offense, and Sec. 38 WpHG containing a criminal sanction.[532] Hence, capital market law seems to offer sanctions for manipulative behavior independently of the requirements of antitrust. The next sections will discuss whether a legal classification of capacity retention according to the requirements of the former Sec. 20a WpHG, as well as the new Art. 12, 15 MAR, are feasible and suited to deter future manipulations.

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[530] The rules were transposed into German law by way of the First Act Amending Financial Marekts Regulations (Erstes Finanzmarktnovellierungsgesetz, 1. FiMaNoG) from June 30, 2016. Refer to the information on the homepage of the German Federal Financial Supervisory Authority (BaFin), available online at https://www.bafin.de/EN/Aufsicht/BoersenMaerkte/Marktmanipulation/marktmanipulation_node_en.html (last accessed October 23, 2017).

[531] Krause, "Kapitalmarktrechtliche Compliance: neue Pflichten und drastisch verschärfte Sanktionen nach der EU-Marktmissbrauchsverordnung", *CCZ* Vol. 7, no. 6 (2014), 258.

[532] Ibid, 121.

aa) Scope of application of the former Sec. 20a WpHG

First and most importantly, the scope of application of Sec. 20a WpHG needed to cover the trade with electricity products at the EPEX spot market both materially and geographically. The **material scope of application** of Sec. 20a WpHG covered financial instruments according to the definition in Sec. 2(2b) WpHG[533], hence excluding the products traded at the EEX spot market.[534] This opinion was supported by the considerations of the German Monopoly Commission in its 2007 special report, stating that the Securities Exchange Act was not applicable to spot market transactions and manipulative behavior could only be pursued with the help of antitrust rules.[535] Also the new Art. 12, 15 MAR explicitly exclude wholesale energy spot market transactions, Art. 2(2)(a) MAR.

For the former Sec. 20a WpHG, this view overlooks the impact of Sec. 20a(4) WpHG. This paragraph extended the scope of application of Sec. 20a WpHG explicitly on commodities if traded in an organized market.[536] With regard to electricity traded over EPEX spot, Sec. 20a WpHG hence applied: The EEX is an organized market[537] and the power products traded fall under the definition of commodities.[538] In particular, the norm did comprise cases where the auction price for power was influenced by withholding capacity from low-cost plants in favor of more expansive facilities.[539]

In conclusion, the material scope of application of Sec. 20a WpHG therefore included capacity retention on the spot market for electricity during the period of examination.[540]

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[533] Please refer to chapter 1 of this work, section E.III.2.a) of this work.

[534] Oliver Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 125 Also refer to Markus Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 98.

[535] Monopoly Commission, Sondergutachten 49 - Strom und Gas 2007: Wettbewerbsdefizite und zögerliche Regulierung, 2007, 61 Ref. 194. Also Matthias Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 306.

[536] Oliver Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 126. Also Wiesner, Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 133; ibid. Detailed Alexander T. Retsch, *Marktmissbrauchsrechtliche Regelungen des WpHG und der REMIT-VO im Stromspothandel* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 96 et sqq.

[537] Michael Cieslarczyk et al., "Verbesserung der Transparenz auf dem Stromgroßhandelsmarkt aus ökonomischer sowie energie- und kapitalmarktrechtlicher Sicht,"(Düsseldorf/Berlin/London2006), 126, 128.

[538] In depth Matthias Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 306 et sqq. See also Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 202. Also Michael Cieslarczyk and Karl-Peter Horstmann, "Marktmissbrauch im Energiehandel?: Die Empfehlung von ERGEG und CESR zur Entwicklung eines spezifischen Regelwerks gegen Marktmissbrauch auf den Energiemärkten," *emw* Vol. 6, no. 8 (2008), 27.

[539] Joachim Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Heinz-Dieter Assmann and Uwe H. Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 43a.

[540] Also Eberhard Schwark, in *Kapitalmarktrechts-Kommentar*, ed. Eberhard Schwark and Daniel Zimmer, 4th ed. (München: C.H. Beck, 2010), § 20a WpHG Ref. 99-100. Likewise Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter

Further questions arise with regard to the **geographical scope of application** of the former Sec. 20a WpHG. Effective from April 1, 2009, the EEX spot market merged with Powernext, a Paris-based spot market for energy, to form the EPEX Spot SE.[541] EPEX Spot has its domicile in Paris, France, which gave rise to the question of geographical applicability of the norm, as well as the criminal sanction in Sec. 38(2) WpHG.[542] Since the offenses in Sec. 20a, 38, 39 WpHG were all designed as abstract strict liability torts, requiring intent or negligence, but no need to actually succeed, the reference for the scope of application of Sec. 20a WpHG could only be the **place of action** rather than the place where the harm arose. Sec. 1(2) WpHG concretized this action-based approach, stating that the rules of the third and fourth section of the WpHG were also applicable to actions and omissions taken abroad if they referred to financial instruments traded at a domestic exchange. Hence, the norm did not require the manipulation to be carried out at a domestic exchange.[543] However, it required a reference to *financial instruments* also traded domestically, and therefore excluded commodities like power from the scope of application. Since an influence of the spot price in Germany had become practically impossible after the shutdown of spot trading at EEX Leipzig, this did not constitute a regulatory gap. The actual **opportunity to influence the price of futures** traded at EEX in Leipzig through spot market transactions was covered by Sec. 1(2) WpHG, since those could be subsumed under the definition of financial instruments. In summary, any action or omission at EPEX spot in Paris that fulfilled the requirements of Sec. 20a WpHG and referred to financial instruments traded at the EEX futures market in Leipzig was covered by the geographical scope of application of Sec. 20a WpHG.[544] However, the applicability of Sec. 20a WpHG did not yet contain the applicability of the sanctioning provisions in Sec. 39, 38 WpHG.

Since Sec. 38 WpHG contains criminal sanctions, its geographical scope of application depends upon the rules of international criminal law, Sec. 3 to 7 and 9 StGB, respectively administrative rules codified in Sec. 5, 7 OWiG. According to these norms, the applicability is clear in cases of manipulations that have effects in the domestic financial market. Thus, manipulations of the EPEX spot market in Paris that have effects on the prices in the EEX futures market located in Leipzig are covered.[545]

Lang, 2011), 127. Also Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 200.

[541] Thomas Pilgram, "Formen des Handels an der EEX," in *Handbuch Energiehandel*, ed. Hans-Peter Schwintowski, 2nd ed. (Berlin: Schmidt, 2010), 361 Ref. 669.

[542] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 220.

[543] Ibid, 221-222.

[544] Ibid, 223.

[545] Ibid, 224.

In conclusion, the geographical scope of application of Sec. 20a, 38, and 39 WpHG covered capacity retention at EPEX spot that had effects in the EEX Leipzig futures market and the financial instruments traded at this exchange. The following section will now turn to the examination of the manipulation offenses codified in the former Sec. 20a WpHG in order to prove the legal classification of capacity retention as capital market law offense by the time of the examination. For future cases of capital market manipulations, reference will be made to the new MAR rules.

bb) Requirements of the former Sec. 20a WpHG

Sec. 20a(1) first sentence WpHG contained three alternative manipulation offenses:

- **Information based** manipulations (Sec. 20a(1) first sentence N° 1 WpHG, now Art. 12(1)(c) MAR),
- **Trade based** manipulations (Sec. 20a(1) first sentence N° 2 WpHG, now Art. 12(1)(a)(i) MAR), and
- **Action based** manipulations (Sec. 20a(1) first sentence N° 3 WpHG, now Art. 12(1)(b) MAR).

Capacity retention at EPEX spot could be subsumed under all three alternatives of Sec. 20a WpHG during the period of examination: information based manipulations (Sec. 20a(1) first sentence N° 1 WpHG) and trade based manipulations (Sec. 20a(1) first sentence N° 2 WpHG), as well as other manipulations (Sec. 20a(1) first sentence N° 3 WpHG).[546] All cases named will be examined subsequently. Under the MAR, commodity spot trades in wholesale energy products are excluded from the regulation and only the REMIT rules apply. In manipulation cases that do not address the wholesale energy market, however, the new MAR provisions named here may apply.

(1) Information based manipulations, Art. 12(1)(c) MAR (formerly Sec. 20a(1) first sentence N° 1 WpHG)

Information based manipulations according to the former Sec. 20a(1) first sentence N° 1 WpHG could be committed by action (Alt. 1) or omission (Alt. 2). The norm required false or misleading information relevant to investors and qualified to influence the auction

[546] Ibid, 128 et sqq.

price. At EPEX spot, publication of false information on the EEX webpage with regard to the available quantity of power may be considered an infringement of this provision.[547]

Brunke proposes that the purposeful manipulation of production capacity aiming at an influence of the merit order does necessarily deceive the market about the whole of the available production capacity. He bases his argument on the fact that producers publish their available capacity on the EEX webpage daily as part of the transparency initiative. Any visitor summing up the values to determine overall capacity would therefore not be able to calculate actual available capacity, but a lower value. The information on the EEX webpage would hence be **false**.[548] Furthermore, *Brunke* considers the information to be **misleading** because the omission of capacity produces a false image of overall capacity.[549]

Yet, any publication on the EEX webpage happens on a voluntary basis.[550] However, the existence of a duty to disclose is of no relevance to the goods protected by Sec. 20a(1) first sentence N° 1 WpHG. Also, publications on a voluntary basis need to be correct and complete.[551]

As a final criterion, Sec. 20a(1) first sentence N° 1 WpHG required the false information to be of **relevance to investors** in the process of evaluating the product, e.g. power supply.[552] This relatively imprecise term was defined further in Sec. 2 Statutory Order Concretizing the Ban of Market Manipulations (Verordnung zur Kontretisierung des Verbotes zur Marktmanipulation, MaKonV)[553], including a legal definition and presumptive examples.[554] Accordingly, the law addressed any such circumstances that a rational investor would consider when deciding about the investment.[555] With regard to EEX spot trades, the information about the available production capacity was of relevance to investors making their buy and sell decisions. In case of capacity retention, investors would face price deviations to their disadvantage when spot prices rise above the average variable cost of

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[547] Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 205.
[548] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 129-130.
[549] Ibid, 131.
[550] Ibid. Also Cieslarczyk et al., "Verbesserung der Transparenz auf dem Stromgroßhandelsmarkt aus ökonomischer sowie energie- und kapitalmarktrechtlicher Sicht," 13.
[551] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 131-132.
[552] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 68.
[553] The MaKonV is based upon the power to issue statutory order in Sec. 20a(5) WpHG. See ibid, § 20a WpHG Ref. 13 et sqq.
[554] Ibid, § 20a Ref. 68.
[555] Ibid, § 20a Ref. 83.

production. Having known the actual availability of supply, investors would probably have refrained from investing the way they did. Hence, the disclosure of available production capacity might be considered of relevance to investors.[556]

However, the modalities of publication on the EEX webpage cast some doubt on this line of argument. Frist, as *Brunke* points out, only about two thirds of total installed capacity publish information on the EEX webpage.[557] Small installations with less than 20 MW production capacity are not covered by the agreement of EEX and plant operators.[558] Hence, investors would not find information on the availability of about one third of total installed capacity.

According to the amendments resulting from the implementation of the REMIT, energy producers trading in the wholesale market are obliged to publicly disclose inside information they possess including information relevant to the capacity and use of facilities for production of electricity and planned or unplanned unavailability of these facilities, Art. 4(1) REMIT and Art. 2(1)(b), 2(7) REMIT.[559]

Yet, the data is displayed rather undifferentiated. Investors may access installed, available and actually generated power. There is however neither a differentiation between the individual plants, nor between the hours of the day that are auctioned off at the spot market.[560] Rather, production is cumulated for each day and only differentiated with regard to the energy source.[561] Hence, it appears highly questionable to deduct a relevance to investors with regard to objectively fragmentary data. To a rational investor, the data must appear rather unqualified to base an investment decision upon it.[562]

Therefore, manipulations of prices at the EEX spot market did not violate Sec. 20a(1) first sentence N° 1 WpHG during the examination period, independently of the suitability of false information disclosure to influence the market price.[563] Subsequently, the two other

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[556] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 134.
[557] Ibid, 134-135.
[558] Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 304.
[559] ACER, Guidance on the application of Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency, 2013, 26, 40.
[560] Cieslarczyk et al., "Verbesserung der Transparenz auf dem Stromgroßhandelsmarkt aus ökonomischer sowie energie- und kapitalmarktrechtlicher Sicht," 88.
[561] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 135. Also refer to the information at the EEX transparency platform on www.eex-transparency.com (last accessed October 30, 2014).
[562] Also ibid. The opposite opinion is hold by Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 309.
[563] Assuming a comprehensive duty to disclose for all producers and as a result affirming the relevance to investors *Brunke, Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 137-138.

alternatives of Sec. 20a(1) – trade based and other manipulations – will be considered to analyze whether these cover spot market manipulations.

(2) Trade based manipulations, Art. 12(1)(a)(i) MAR (formerly Sec. 20a(1) first sentence N° 2 WpHG)

Sec. 20a(1) first sentence N° 2 WpHG addressed trade based manipulations, thus trades that were suited to send false or misleading signals with regard to supply, demand, or stock market price of financial instruments or to effect an artificial price level.[564] With regard to the EEX spot market, all trade based manipulation techniques could be addressed by the norm if they produced false signals or artificial price levels without being considered an accepted market practice or justified by legitimate reasons.[565]

As a first criterion, trade based manipulations required the **exercise of a transaction** (e.g. purchase or sale of power products) or the **issue of a purchase or sale order**.[566] The law did explicitly not refer to an execution of the order. Rather, any order that was received by the addressee – thus entered into the electronic trading system Xetra used at the EPEX spot – irrespective of a time limit or a limit with regard to the amount bid was considered an order. Even a later withdrawal of the order did not hinder the compliance with the criterion.[567] Hence, any issue of a purchase or sale order at EPEX spot was in principle covered by Sec. 20a(1) first sentence N° 2 WpHG.

In order to qualify as trade based manipulation, it did further need to be suited to **send false or misleading signals** with regard to supply, demand or the stock price of power *or* establish an **artificial price level**.[568] Hence, Sec. 20a(1) first sentence N° 2 WpHG established strict liability that did not require other market participants to be deceived. This wide range of the norm did require a closer definition of infringing behavior with regard to the constitutional principle of legal certainty. The necessary level of legal certainty was met with the help of the complementary provisions in Sec. 3 MaKonV.[569]

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[564] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), Vor § 20a Ref. 35.
[565] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 139-140.
[566] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 144.
[567] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 141. With reference to Vogel, in Wertpapierhandelsgesetz Kommentar, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 148.
[568] Vogel *in Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 149.
[569] Ibid, § 20a Ref. 153 et sqq.

(a) Former Sec. 3(1) N° 1e MaKonV

According to **Sec. 3(1) N° 1e MaKonV**, orders taken at or around a specific time when reference prices are calculated that lead to price changes which have an effect on such prices indicated manipulative behavior.[570] With regard to the EEX, the following constellation might be addressed by the rule: Derivatives traded at the EEX futures market (and hence financial instruments) are based upon underlyings from EPEX spot, e.g. power contracts. Through purchases and sales of those underlyings, prices of call or put options may be influenced significantly.[571] Also, capacity retention aiming at a change of the merit order and – correspondingly – the price level in the reference market EPEX spot – is well suited to influence prices for call (increase) and put options (decrease) disproportionately high. Accordingly, the manipulation of exchange prices for power using capacity retention was covered by Sec. 3(1) N° 1e MaKonV, which was a strong indicator for market manipulation.[572]

However, this view was not uncontested. *Schröder* points out that the process of price formation is not disturbed by the retention of capacity. Rather, the price is determined correctly with regard to (seemingly) scarce supply. It would only be different if more capacity were included in the process of price formation.[573] This view is convincing: Capital market law addresses the functionality of capital markets, and in particular the process of price formation at exchanges to protect the investors´ confidence.[574] Other interventions in the market process without specific link to the integrity of capital markets are left to the rules and regulations of antitrust and unfair competition.[575] This is especially true for influence exerted on the market price, abusing a position of market power without targeting the mechanism of price formation. Shortening supply in order to raise prices and increase profits is a well-known rationale for firms possessing market power.[576] It is, however, irrespective of the process of price formation. A view that considers the shortening of supply as an intervention in the process of price formation misjudges the distinction

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[570] Ibid, 160.
[571] Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 310.
[572] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 148-149. With reference to Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," ZNER Vol. 11, no. 4 (2008), 309-310.
[573] Christian Schröder, *Handbuch Kapitalmarktstrafrecht*, 3rd ed. (Köln: Carl Heymanns Verlag, 2015), 173 Footnote 891.
[574] Christian Siller, *Kapitalmarktrecht* (München: Franz Vahlen GmbH, 2006), 3.
[575] Holger Fleischer and Eckart Bueren, "Cornering zwischen Kapitalmarkt- und Kartellrecht," *ZIP* Vol. 33, no. 27 (2013), 1253.
[576] Schröder, *Handbuch Kapitalmarktstrafrecht*, 3rd ed. (Köln: Carl Heymanns Verlag, 2015), 171 Ref. 504. See also First Chapter, section D.I.3.a) and b) of this work. With reference to N. Gregory Mankiw, *Principles of Economics*, 5th ed. (Mason, Ohio: South-Western, 2008), 325. Also Paul Anthony Samuelson and William D. Nordhaus, *Economics*, 18th ed. (Boston, Mass.: McGraw-Hill/Irwin, 2005), 187.

between capital market law and the field of antitrust. In conclusion, Sec. 3(1) N° 1e MaKonV did therefore not cover capacity retention aiming at EPEX spot.

(b) Former Sec. 3(1) N° 3 MaKonV

According to **Sec. 3(1) N° 3 MaKonV**, trades that did not result in a change of the economic owner of the good, could be suspicious of manipulation. Trades without economic relevance could be targeted at feigning an active market with huge liquidity that did not reflect the actual market situation.[577] The impression of increased trade may result in higher demand and a price increase in the market. At the EEX, power producers may as well act as buyers in the market, especially the vertically integrated companies.[578] Several companies trading for the E.ON group do economically belong to the group themselves. Hence, at EPEX spot is a danger of manipulation through trades without change of the economic owner. This conclusion is compounded by the fact that trading at EPEX spot is anonymous[579], such that the identity of buyers and sellers is not visible to traders. In case of suspicions, such behavior may be detected using the full documentation of trading and the competence of the EEX Trade Supervisory Office.[580]

The application of Sec. 3(1) N° 3 MaKonV with regard to the re-sale of power already sold at the exchange (so-called wash sale) was excluded: This trading strategy is common in all futures markets and consistent with the purposes of futures trading.[581] Other than with manipulative behavior, those trades possess economic relevance, as they shall balance long-term futures trades with regard to short-term price trends, which are often not foreseeable in the long run.[582]

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[577] *Vogel, in Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 162.
[578] Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 303, 310. Also Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 152.
[579] Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 303.
[580] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 152-153.
[581] Refer to Niels Ehlers and Georg Erdmann, "Kraftwerk aus, Gewinne rauf? Wird der Preis in Leipzig manipuliert?," *et* Vol. 57, no. 5 (2007), 42. for details on this strategy.
[582] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 153.

(c) Former Sec. 3(2) N° 1 MaKonV

Sec. 3(2) MaKonV contained coercive examples of behavior that implied the satisfaction of the conditions of Sec. 20a(1) first sentence N° 2 WpHG.[583] With regard to spot market manipulations at EEX, **Sec. 3(2) N° 1 MaKonV** might have applied. The norm had a close relationship to Sec. 3(1) N° 1e MaKonV treated above. Other than Sec. 3(1) N° 1e MaKonV, Sec. 3(2) N° 1 MaKonV required an element of deception.[584] Accordingly, the impression of economically sound purchase or sale orders needed to be created, while in fact only the closing price was manipulated.[585] As has been said with regard to Sec. 3(1) N° 1e MaKonV, at EPEX spot, capacity retention aiming at a change of the merit order and – correspondingly – the price level in the reference market EPEX spot – is well suited to influence prices for call (increase) and put options (decrease) disproportionately high. The same behavior could therefore have been covered by Sec. 3(2) N° 1 MaKonV, if a deception of other market participants was to be expected.

Other than Sec. 3(1) N° 1e MaKonV, Sec. 3(2) N° 1 MaKonV did not require any direct influence on the closing price of power.[586] Therefore, **the norm covered capacity retention at the EPEX spot** as manipulative behavior that was suited to deceive market participants about the actual supply of power production.

(d) Further requirements of the former Sec. 20a(1) first sentence N° 2 WpHG

In summary, capacity retention aiming at a change in supply in order to influence the merit order shortly before the finding of the closing price and deceiving other market participants about the actual supply situation was covered by Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV applicable during the period of examination.

According to the former Sec. 20a(2) WpHG, any action

- compatible with legitimate practice on the markets concerned or
- based upon legitimate reasons

[583] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 164.
[584] Ibid, § 20a Ref. 165.
[585] Bundesrat, *Begründung zur MaKonV* (Drucksache 18/05,2005), 15.
[586] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 155.

was excluded from the provision.[587] Actions could only be considered a legitimate practice on the market if they were to be expected according to reasonable judgment and had been approved by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin).[588] Sec. 7 to 10 MaKonV concretized the requirements for approval of the BaFin. Criteria included transparency for other market participants (Sec. 8(1) N° 1 MaKonV), the opportunity for other traders to react in due time (Sec. 8(1) N° 4 MaKonV) or whether the practice endangered the integrity of other markets on which the financial instrument was traded (Sec. 8(1) N° 6 MaKonV). In summary, a core criterion for the approval of market behavior was the transparency practiced by market participants.[589] With regard to capacity retention at EPEX spot, there was, however, no transparency involved. The practice had not been approved by the BaFin and has no prospect of being approved ex post (former Sec. 20a(2) third sentence WpHG)[590] in the future.[591]

Also, the practice needed to be justified because of legitimate reasons. Such legitimate reasons required recognition in capital market law and should not have contradicted accepted principles, structures, mechanisms, conditions for functioning and integrity of the market.[592] Plant shutdowns due to revision or maintenance are clearly legitimate reasons according to this definition. For reasons of clarification, however, the official approval of the BaFin would be desirable.[593] By contrast, it appears highly questionable to subsume capacity retention strategies under this definition of legitimacy of reasons. Yet, the delimitation of manipulative shutdowns and legitimate plant revisions is difficult in practice, which will be discussed with regard to the proof of manipulations later in this chapter.

In conclusion, capacity retention strategies at EPEX spot could be subsumed under Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV during the period of examination.

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[587] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 170.
[588] Ibid.
[589] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 159.
[590] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 174.
[591] So far, no legitimate practice has been approved for the field of power trading. See *Wiesner, Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität,* Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 212.
[592] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 179.
[593] Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 206, 212.

(3) Other manipulations, Art. 12(1)(b) MAR (formerly Sec. 20a(1) first sentence N° 3 WpHG)

Furthermore, withholding capacity might also have met the criteria of other manipulative actions according to Sec. 20a(1) first sentence N° 3 WpHG during the period of examination.[594] The norm served as an omnibus offense targeting any other deceptive action qualified to influence the market price of commodities traded at exchanges.[595] Deceptive actions could be seen in any behavior that was objectively misleading and influenced the perception of other market participants. Sec. 4(1) MaKonV concretized: The action needed to be qualified to deceive a reasonable investor about the economic conditions, especially supply and demand of the commodity, and to influence the market price to move either upwards or downwards. An individual deception was not required, only the general qualification to deceive.[596]

With regard to capacity retention at EPEX spot, especially the former Sec. 4(3) N° 1 MaKonV deserves a closer look.[597] It banned the protection of a dominant market position using the supply or demand for financial instruments, if it resulted in a change of prices or the creation of trading conditions not reflecting the market.[598] This strategy, also known as **cornering**, could as well have covered purchases at EEX from companies dominating the power market.[599] Especially, since this strategy was promising in illiquid markets, which may happen at times of scarce supply and fixed-date delivery obligations in commodity markets.[600] However, at EPEX spot capacity is being kept out of the market rather than purchased by the oligopoly firms. The wording of Sec. 4(3) N° 1 MaKonV did not refer to the withholding of financial instruments. *Jahn* argues that withholding a product in a market environment may only be profitable to its producer if this behavior is connected with an economic incentive, which might be seen in the manipulation of the EEX price

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[594] Finally denying Sec. 20a(1) first sentence N° 3 WpHG Retsch, *Marktmissbrauchsrechtliche Regelungen des WpHG und der REMIT-VO im Stromspothandel* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 166.
[595] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 209.
[596] Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 310.
[597] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 182.
[598] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 231. In more detail Fleischer and Bueren, "Cornering zwischen Kapitalmarkt- und Kartellrecht," *ZIP* Vol. 33, no. 27 (2013), 1255. Also Stefan Thomas, "Die kartellrechtliche Bewertung des sog. kapitalmarktrechtlichen "cornering"," *ZWeR* Vol. 11, no. 2 (2014), 120.
[599] Cieslarczyk and Horstmann, "Marktmissbrauch im Energiehandel?: Die Empfehlung von ERGEG und CESR zur Entwicklung eines spezifischen Regelwerks gegen Marktmissbrauch auf den Energiemärkten," *emw* Vol. 6, no. 8 (2008), 27. Even though the question which definition of market dominance applies is controversial (e.g. the requirements of Sec. 19 GWB or lower requirements), it may be left open here, since the oligopoly firms´ market dominance even according to the stricter requirements of Sec. 19 GWB has been proved above. See also Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 311.
[600] Fleischer and Bueren, "Cornering zwischen Kapitalmarkt- und Kartellrecht," *ZIP* Vol. 33, no. 27 (2013), 1256.

mechanism. He concludes, that Sec. 20a(1) first sentence N° 3 covered capacity retention of dominant firms at EEX.[601]

Yet, this reasoning is not convincing due to the requirement of legal certainty in criminal law: Both, Sec. 20a(1) WpHG and the concretizing MaKonV contained a number of undefined legal concepts requiring interpretation.[602] With regard to the threat of criminal punishment (Sec. 38 WpHG) for infringements of Sec. 20a(1) WpHG, this interpretation needed to be restrictive and could not cover extensions of the wording of the norm.[603] Therefore, the qualification of capacity retention at EEX as cornering according to Sec. 20a(1) first sentence N° 3 WpHG in conjunction with Sec. 4(3) N° 1 MaKonV was not possible.[604]

cc) Conclusion

In summary, the legal classification of capacity retention as an infringement of capital market law, namely the ban on market manipulations codified in the former Sec. 20a WpHG, revealed a second approach in the fight against EPEX spot manipulations.

The retention of plant capacity aiming at a change of supply in order to influence the merit order shortly before the finding of the closing price and deceiving other market participants about the actual supply situation could be subsumed under Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV during the period of examination.

For future capital market manipulations, however excluding manipulations of wholesale energy commodity spot markets, the respective manipulation rules in Art. 12, 15 MAR apply and qualify as capital market law offences.[605]

The following section will shortly discuss the legal consequences for infringements of this paragraph.

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[601] Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 311. Similar Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 167.

[602] Fleischer and Bueren, "Cornering zwischen Kapitalmarkt- und Kartellrecht," *ZIP* Vol. 33, no. 27 (2013), 1256.

[603] Similar Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 163, 184. Also Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 20a Ref. 231.

[604] Leaving the question open *Schröder, Handbuch Kapitalmarktstrafrecht*, 3rd ed. (Köln: Carl Heymanns Verlag, 2015), 171 Ref. 891.

[605] Krause, "Kapitalmarktrechtliche Compliance: neue Pflichten und drastisch verschärfte Sanktionen nach der EU-Marktmissbrauchsverordnung", *CCZ* Vol. 7, no. 6 (2014), 258.

b) Legal consequences

An infringement of the WpHG ban of market manipulations may result in a punishment as an administrative offense according to Sec. 39 WpHG or even result in a criminal sanction according to Sec. 38 WpHG. The differentiation between administrative offense and criminal sanction shall depend upon the actual influence on the stock price: Actions that are qualified to influence the stock price but do not result in an *actual* change of the price are treated as administrative offenses. A criminal sanction may only be imposed in cases where the manipulation had an actual effect on the stock price.[606] A detailed discussion of the sanctions named and their deterrent effect will be presented in the third chapter of this work.[607]

3. Conclusion

In conclusion, the legal classification of capacity retention at EPEX spot as an infringement of capital market law (the former Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV) offers a second approach to the problem, as well as additional legal tools to fight the offenses. However, the practical problems with the capital market law approach are twofold: First, authorities face similar difficulties as in antitrust to present sound evidence for manipulative behavior.[608] The mere fact that in spite of the heated public discussion, the competent authority – BaFin – has never opened a case against one of the companies concerned underlines this problem.[609] Second, the lack of precise rules fulfilling the requirements of legal certainty – especially with regard to the criminal sanctions in Sec. 38 WpHG – increases the difficulty for authorities and legal practitioners to identify the allowed practices.

Hence, the regulatory problem at EEX – also in capital market law – is not a lack of rules covering manipulative practices. Rather, it is a lack of efficient market monitoring and enforcement of the rules.[610] Subsection C. will therefore treat the practical problem of

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[606] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 172.
[607] Please refer to the third chapter, section B.II.1.b).
[608] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 175. See also Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 314.
[609] Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 134, 198.
[610] Ibid, 201, 212.

proving manipulations, before the following chapters three and four focus on approaches that reduce the enforcement deficit both in antitrust and capital market law.

IV. Legal classification: The relationship between antitrust and capital market law

Having proved an offense against both the rules of antitrust and capital market law, the question concerning the relationship of the two regimes arises. In principle, both laws applied in parallel during the period of examination.[611] In case of a divergence of results, the more extensive regime prevails in order to avoid regulatory gaps.[612] In the following chapters, this work will examine the deterrent effect of both regulatory regimes – antitrust and capital market law – in their complex interaction.[613] It will be shown where the weaknesses of the two systems lie and how an efficient system of law enforcement needs to focus on both antitrust and capital market law to successfully deter the manipulation of capital markets, illustrated on the example of the EEX power market.[614]

[611] Christian Dessau and Joachim du Buisson, "Die Rolle Europas im Energiehandel," in *Energiehandel in Europa: Öl, Gas, Strom, Derivate, Zertifikate*, ed. Ines Zenke and Ralf Schäfer, 3rd ed. (München: C.H. Beck, 2012), Sec. 28 Ref. 124 et sqq. After the introduction of the MAR, there is no parallel application of the WpHG and GWB rules any more, but rather of REMIT and the GWB/AEUV rules.
[612] Fleischer and Bueren, "Cornering zwischen Kapitalmarkt- und Kartellrecht," *ZIP* Vol. 33, no. 27 (2013), 1263.
[613] Refer to the third and fourth chapter of this work.
[614] For the integrated solution refer to the fifth chapter of this work.

C. Economic Analysis of the German Energy Market

Based on the fundamentals of structure and pricing in the German energy market introduced in the first chapter[615] and potential manipulation strategies discussed in the preceding section, the following section will examine incentives for market participants to engage in manipulative behavior. An economic analysis will examine pricing strategies to find the optimal choice of price and quantity for any operator and show that the retention of capacity may be an attractive option if the law does not deter it. The analysis acts on the assumption that the four established power generators formed an oligopoly during the period of examination[616] and did therefore not pursue a competitive pricing strategy to maximize their profits.

I. Fundamental assumptions of the model

The economic branch of industrial organization consulted for the purpose of this inquiry permits the analysis of markets that do not comply with one of the two extreme cases, the monopoly respectively the competitive market, but are dominated by a number of influential participants. Starting from the structure-conduct-performance paradigm, whereby the market structure determines the market actors´ conduct and this the market performance[617], industrial organization offers a variety of tools for the examination of strategic behavior in non-competitive market environments.[618] Therefore, it is especially suited for a general behavior-based analysis of the market to identify incentives for manipulations. This model does hence not assume that the actual exercise of market power causes high power prices in the first place, but starts with an incentive-based analysis for the main players.[619]

The following analysis will model pricing in the energy market as a non-cooperative game in the case of two firms.[620] This application of game theory enables the examination of the market equilibrium, given that any participant acts according to his self-interest. The basic

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[615] See chapter 1 section II.
[616] This fact has been established earlier in this chapter, see section II.1.c).
[617] Erich Kaufer, *Industrieökonomik* (München: Verlag Franz Vahlen GmbH, 1980), 8.
[618] Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 1.
[619] So the criticism of former analyses by Axel Ockenfels, "Strombörse und Marktmacht," *et* Vol. 57, no. 5 (2007), 49, 54.
[620] For reasons of simplification, the analysis is restricted to the duopoly case, it could, however, be expanded to the case of n firms without changes in the results. See Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 448.

solution to strategic games is the so-called **Nash-equilibrium**: A combination of strategies such that a firm cannot increase her profit by a change of strategy, given the strategic choices of the other firms considered.[621] The final target is therefore to find the equilibrium solution, such that the following condition for the profit Π^i of firm i holds:

$$\pi^i(a_i^*, a_j^*) \geq \pi^i(a_i, a_j^*),$$

with firm i (i = 1, 2) and the profit function $\Pi^i(a_i, a_j)$, depending on the action a_i of firm i and the action a_j of its competitor.

The model assumes price competition according to the Bertrand competition model. The strategic variable for the players´ decisions is therefore the price.[622] This model fits the case of the power market well, since power as a good is perceived as fully homogenous by consumers, who therefore base their purchase decision solely on the lowest price offered in the market.[623] Furthermore, cost structure, efficiency of production and the characteristics of the good power are assumed to be the same for both firms and remain unchanged.[624]

II. The analysis of the energy market

Market demand is $D(p_i)$ and is distributed between the two firms active in the market according to the specific demand functions which can be established as follows:

$$D(p_1) = \begin{cases} 0 & \text{for } p_2 < p_1 \\ \frac{1}{2}D(p) & \text{for } p_2 = p_1 = p \\ D(p_1) & \text{for } p_1 < p_2 \end{cases}$$

and

$$D(p_2) = \begin{cases} 0 & \text{for } p_1 < p_2 \\ \frac{1}{2}D(p) & \text{for } p_1 = p_2 = p \\ D(p_2) & \text{for } p_2 < p_1 \end{cases}$$

621 Ibid, 448.
622 Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer Verlag, 2004), 95-96.
623 Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 456.
624 Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer Verlag, 2004), 96.

The distribution of market demand between the two oligopoly firms active in the market therefore depends solely on the price set by each firm: Any price p higher than the competitor´s price will result in the more expansive firm being driven out of the market (first row).[625] By contrast, the firm setting its price lower than the competing firm will satisfy the whole of market demand (last row). If both firms price equally at $p = p_1 = p_2$, they will share the market each serving half of the customers due to the similarity assumption.[626]

1. The basic case of oligopolistic Bertrand competition

In this basic case of oligopolistic competition, each firm needs to define its best response to the competitor´s action: If the profit ∏ of one firm $\prod_1(p_1, p_2)$ depends on the price p_2 that has to be treated as given by firm 1, this firm has to choose its own price p_1 such that profit is maximized for any given p_2.[627] This **best response function** R_1 therefore contains all profit-maximizing prices p_1 for any given value of p_2:

$$p_1^* = R_1 (p_2)$$

The same is, of course, true for the strategic choice of price of firm 2:

$$p_2^* = R_2 (p_1)$$

The intersection of the two best response functions reveals the Bertrand-Nash equilibrium for the strategic game.[628] Under the symmetry assumption and without production restrictions, the best response for both firms is to price equally:

$$p = p_1 = p_2$$

at their identical cost c, resulting in

$$p = c.$$[629]

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[625] Ibid.
[626] Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 456.
[627] Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer Verlag, 2004), 108.
[628] Ibid, 109.
[629] Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 457-458.

This paradox result is due to the fact that any marginal price increase would drive the more expansive firm out of the market. Therefore, the best response functions intersect where $c_1 = c_2 = p$. In equilibrium, no incentive for excessive pricing would be identified.[630]

2. A more realistic assumption: Capacity limits in production (The Bertrand-Edgeworth model)

However, as the FCO established in its sector inquiry, a more realistic assumption for the German power market would be capacity limits in production for the firms involved.[631] This means that none of the firms individually can satisfy the whole of market demand at any time. In industrial organization, this situation is treated in the Bertrand-Edgeworth model[632]: With Y_1 being the production capacity of firm 1, this firm can only produce a quantity of power which satisfies the following condition:

$$y_1 \leq Y_1.$$[633]

If market demand exceeds the production capacity of firm 1, a second supplier is needed to cover the remaining demand:

$$D(p_1) > Y_1 \text{ and}$$

$$D(p_2) = D(p_1) - Y_1.$$

The individual demand functions of the two firms change as follows:

$$D(p_1) = \begin{cases} D(p_2) - Y_2 & \text{for } p_2 < p_1 \\ D(p) - y_2 & \text{for } p_2 = p_1 = p \\ D(p_1) = Y_1 & \text{for } p_1 < p_2 \end{cases}$$

$$D(p_2) = \begin{cases} D(p_1) - Y_1 & \text{for } p_1 < p_2 \\ D(p) - y_1 & \text{for } p_2 = p_1 = p \\ D(p_2) = Y_2 & \text{for } p_2 < p_1 \end{cases}$$

In this situation, the firms have incentives to raise prices above the competitive level, because there is no danger of being driven out of the market as a result of marginal price

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630 So-called Bertrand paradox, stating that a duopoly is sufficient to guarantee competitive pricing in a market. See ibid, 458.

631 The FCO presents data on the net production capacity, revealing that none of the four huge producers is able to satisfy the whole market demand. See Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 90.

632 Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 459.

633 Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer Verlag, 2004), 100.

increases any more.[634] A certain share of the unsatisfied demand for power offered by the cheapest supplier will always be left to be satisfied by more expansive producers. As a result, $p = p_1 = p_2 = c$ is no longer an equilibrium in this strategic game.[635] Instead, firm 2 may increase its profits by setting

$$p_2 > p_1 = c, \text{ resulting in}$$

$$\Pi_2 = (p_2 - c)\, y_2 > 0.$$

The best response function of firm 2 therefore changes to

$$R_2(p_1 = c) > p_1.$$

Since firm 1 anticipates the reasoning of firm 2, it will also set a price p_1 deviating from its cost of production[636]:

$$R_1(p_2 > c) \leq/\geq p_2.$$

Whether firm 1 will set its price equal to or marginally higher or lower than p_2 cannot be decided without further assumptions on cost of production and market demand. Yet, it shows that with the existence of limited production capacity as can be observed in the German power market, profit-maximizing firms have an incentive to raise prices above their cost of production.

3. *Further improvements of the model through the assumption of decreasing economies of scale*

A further constraint of pricing close to the marginal cost as found in the Bertrand competition model comes from increasing marginal cost of production: Decreasing economies of scale.[637] Other than in the initial case, we assume the cost of production $C_i(y_i)$ to be increasing and convex:

$$\frac{dC_i}{dy_i} > 0 \quad \text{and} \quad \frac{d^2C_i}{dy_i^2} \geq 0.$$[638]

634 Ibid.
635 Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 459.
636 Ibid.
637 Ibid, 462.
638 Ibid.

The assumption of increasing marginal cost of production is sensible in the case of electricity production, since it has been shown earlier in this work how increasing market demand influences the production technology used, requiring more expansive plants to be turned on at peak hours.[639] This situation constitutes the more general case of capacity limits treated in the previous section: Offering a quantity $S_i(p)$ whose unit cost exceeds the price p charged in the market is not profitable for the supplier:[640]

$$S_i(p) = \tilde{y} \quad \text{with} \quad p = \frac{dC_i}{d\tilde{y}}.$$

Therefore, the fact that economies of scale are decreasing comes across as a capacity limit, where marginal cost of production grows to infinity.[641] As a result, firms face the same incentive to raise prices above marginal cost as described for capacity limits, since consumers all wanting to buy from the cheapest producer face a rationing of the good at the moment when the quantity demanded exceeds the profitable output level of the producer:

$$D(p) > S_i(p).^{642}$$

Again, the residual demand will have to be satisfied by the operation of more expansive production technology respectively other suppliers, which is exactly the ratio of the merit order mechanism. In anticipation of these economic facts, producers have an incentive to price their production higher than at marginal cost to earn a profit from the price-cost difference:

$$\Pi_i = (p_i - c)\, y_i > 0.$$

With the two restrictive assumptions discussed in this subsection and the preceding subsection 2, strong incentives for divergences from the competitive pricing level in the electricity market have been pointed out. The following subsection will shortly discuss factors that might, as opposed to the results of the model, still lead to competitive pricing.

4. Conflicting incentives for producers

In the light of the above model, one might ask why firms do not invest in an upgrade of their installed capacity either with regard to an expansion or an improved, more efficient

639 See first chapter, section D.II.3.a).
640 Helmut Bester, *Theorie der Industrieökonomik*, 3rd ed. (Berlin: Springer Verlag, 2004), 99 Ref. 19.
641 Jean Tirole, *Industrieökonomik*, 2nd ed. (München: R. Oldenbourg Verlag, 1999), 462.
642 Ibid.

production technology. If, for example, one electricity producer was able to improve his installations such that they could serve a higher share of the customers at marginal cost of production, he could increase his market share to the detriment of his competitor. In the short run, however, none of the firms involved has an incentive to invest in their capacity in order to serve a higher share of the customers respectively improve their production technology, because the investment is not covered by the profits earned.[643] These are too low with regard to the tremendous investments necessary for the construction of new plants in the short run. But also in the medium term the incentive to increase production capacity is rather weak: Firms anticipate that capacity enabling them to serve the whole market would result in a ruinous competition as outlined for the basic case of Bertrand price competition. Profits would be zero for all firms and firms would hence not earn a contribution margin to cover the fixed cost of the installation of new capacity.[644]

Another factor possibly leading to divergences from the results found in the above Bertrand model variations of the power market might be seen in the antitrust legislation restricting the free choice of prices by firms possessing market power. As outlined in the introductory chapter of this work, German and European competition law interdict excessive pricing by dominant market participants.[645] At this stage of the work, there shall be no detailed discussion of the deterrent effect of antitrust law on firm behavior, this analysis is the subject matter of the third and fourth chapter on legal corrections of the manipulation incentives.[646] Yet, this analysis is not necessary for the treatment of the incentive for excessive pricing, since firms do not have to declare their pricing strategy in public and thereby reveal their objectives towards the competition authorities. Instead, they find ways to cover behavior interdicted by law – e.g. by which is the very core of the example used in this work: retention of production capacity.

The above analysis came to the conclusion that a price equaling the marginal cost of production is not an equilibrium solution for the firms in the oligopolized German electricity market. Instead, prices exceeding the competitive level will probably be observed. The next section examines in more detail the scope of the price increases.

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[643] Ibid, 459.
[644] Ibid, 460.
[645] Please refer to the first chapter, section E.II.1. and 2.
[646] Refer to the third and fourth chapters of this work.

5. The withholding equilibrium

This section will show a possible N-player Nash equilibrium with each power generator withholding capacity in order to increase individual profits. The analysis is based on a paper by Lave and Perekhodtsev looking at power generation in the California ISO area from 2001.[647]

a) Assumptions of the Lave and Perekhodtsev model

The analyzed N-player Nash equilibrium is found based on a continuous linear symmetric model. This model works with some simplifying assumptions as compared to real electricity markets:[648]

- Completely inelastic industry demand is assumed, as well as
- complete information of all market participants.[649]
- Furthermore, for the generating firms continuous marginal cost of production is assumed instead of stepwise functions. This assumption permits the use of functions in the model instead of multiple units. The simplification is justified in the case of power supply, since the average size of the units offered by a generator is negligible in comparison to its total supply.[650]
- Finally, symmetry of the generating firms is assumed which helps to determine the Nash equilibrium and avoids accounts for capacity constraints of generators.[651]

In order for the industry marginal cost to resemble the real one shown in the first chapter (merit order mechanism)[652], increasing concave marginal cost functions for each generator are used, such that the marginal cost of a single generator will be

$$p = \frac{dc}{dx} \text{ and}$$

with N being the total number of generators in the market, industry marginal cost will be

[647] Lester B. Lave and Dmitri Perekhodtsev, "Capacity withholding equilibrium in wholesale electricity markets", *CEIC working paper* CEIC-01-01.
[648] Ibid, 5-6.
[649] Ibid, 1.
[650] Ibid, 6.
[651] Ibid, 7.
[652] See the first chapter, section D.II.4.b) of this work.

$$\frac{dC}{dX} = \frac{\frac{dc}{dx}}{N}.$$

Accordingly, with D being the industry demand, the market-clearing price will be

$$p = \frac{\frac{dc}{dD}}{N}.$$

Therefore, each of the generators faces an equal demand share d of

$$d = \frac{D}{N}.$$

b) Withholding Nash equilibrium

The effect of withholding some inframarginal amount of capacity x by one of the generators, assuming that all the other generators´ behavior remains unchanged, results in a gap in supply:

$$X - x < D.$$

The residual demand has to be made up for by a shift of the vertical demand line to the right by the amount x, resulting in a higher market-clearing price.[653] The individual demand lines for each generator shift to the right by an amount x/N. Therefore, total demand for the generator who withheld capacity will change to

$$d_{new} = d_{old} - x + \frac{x}{N}.$$

The choice of the inframarginal unit of capacity to withhold depends on the marginal cost: It is most profitable for the generator to withdraw the most expansive inframarginal capacity, Δx. However, since the generator foresees the right shift of the demand line by Δx/N as a consequence of him withdrawing capacity, he would prefer to withdraw the formerly ultra marginal capacity Δx, which is, after the shift of the demand line, the most expansive inframarginal unit. Therefore, the generator withholds both:

$$\Delta x \text{ and } \Delta x(N - 1)/N.$$[654]

[653] This is the ratio of the characteristic of physical capacity retention treated extensively at the beginning of this chapter. See section B.I. for details and a graphical analysis of the case. With regard to the model applied here, see Lester B. Lave and Dmitri Perekhodtsev, "Capacity withholding equilibrium in wholesale electricity markets", *CEIC working paper* CEIC-01-01, 7.
[654] Ibid.

Assuming the generator reasoning this way, market price will increase by Δx/N. The extra profit (Π_{extra}) earned from withholding the inframarginal capacity is

$$\pi_{extra}(\Delta x) = \frac{D - \Delta x (N - 1)}{N} \frac{\Delta x}{N},$$

as opposed to a sacrificed profit (Π_{sac}) of

$$\pi_{sac}(\Delta x) = \frac{\Delta x^2 (N - 1)^2}{2N^2}.$$

The total change in profit $\Delta\Pi$ is therefore

$$\Delta\pi = D \frac{\Delta x}{N^2} - \Delta x^2 \frac{N - 1}{N^2} - \frac{1}{2} \Delta x^2 \frac{(N - 1)^2}{N^2}.$$

This quadratic function has its maximum at

$$\Delta x = \frac{D}{N^2 - 1}.$$[655]

This amount is hence being retended by producers. Having derived the optimal behavior for a single producer, we can now turn to the examination of a market equilibrium Δx* with all the agents withholding capacity Δx* and nobody wanting to deviate from this choice. It is assumed that N – 1 market participants already withheld the capacity Δx* in the way described above. The question becomes therefore, what would be the optimal capacity for the nth agent to withhold.

Lave and Perekhodtsev show, that due to N – 1 agents each already having withhold Δx*, the industry demand line changed to

$$D' = D + \Delta x^*(N - 1).$$

Thus, the optimal amount to withdraw from the market for the nth agent is

$$\Delta x = \frac{D + \Delta x^*(N - 1)}{N^2 - 1}.$$[656]

[655] For the derivation of the profit functions, please refer to ibid, 8. The maximum of the quadratic profit function is found by calculating the first derivative of this function with regard to Δx, which is, after combining and rearranging terms, $\frac{d\Delta\pi}{d\Delta x} = \frac{D + \Delta x - \Delta x N^2}{N^2}$, and equalizing it to zero.

[656] For the derivation of the profit functions, please refer to ibid, 9.

In order to find the withholding equilibrium for the market, Δx has to equal Δx*. The solution to the resulting equation in terms of Δx* delivers the amount of capacity being withhold by each generator in equilibrium:

$$\Delta x^* = \frac{D}{N\,(N-1)}.$$[657]

Total withholding in the market is therefore

$$\Delta X^* = \frac{D}{N-1}.$$[658]

As a result of the above analysis, Lave and Perekhodtsev find that for any demand D faced by the industry, the total withholding is D/(N – 1). Hence, the industry inverse supply function changes to

$$p = \frac{X}{N-1}.$$[659]

As compared to the competitive case where supply equals marginal cost (p = X/N), this means that "whatever the demand is, the resulting price will always be by N/(N – 1) higher in the case of linear marginal cost" if capacity is held back.[660]

III. Insights from the Lave and Perekhodtsev study

Lave and Perekhodtsev take the analysis even farther by departing from the continuity assumption and extending it to several case variations to the point of the asymmetric nonlinear marginal costs case.[661] For the purpose of this work, however, the findings from the basic model are sufficient to prove the attractivity of capacity withholding in the energy wholesale market:

(1) A withholding equilibrium to the benefit of producers in wholesale electricity markets is possible.

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[657] This solution is found by equalling Δx* to the above calculated Δx: $\Delta x^* = \frac{D + \Delta x^* (N-1)}{N^2 - 1}$. Summarizing and rearranging terms yields the equilibrium withholding for each generator.
[658] For the derivation of the profit functions, please refer to Lester B. Lave and Dmitri Perekhodtsev, "Capacity withholding equilibrium in wholesale electricity markets", *CEIC working paper* CEIC-01-01, 9.
[659] Ibid.
[660] Ibid.
[661] Ibid, 10-14.

(2) The withholding equilibrium results in a price increase by N/(N – 1) to the detriment of consumers.

D. Previous efforts to prove manipulations

The preceding section C. showed that – from an economic point of view – the retention of capacity was an attractive option for market participants during the time of the examination. This incentive scheme should however be changed by the legal system that deters manipulative behavior in the market by the threat of fines. This section will examine whether the threat of fines is credible in the current legal framework, assuming that only a sufficiently high sanction, combined with an adequate probability to actually be sanctioned, may change the incentive scheme of market participants. For this purpose, past efforts of the European and German authorities to prosecute manipulations will be discussed.

With regard to the suspicions of manipulations at the European Energy Exchange used as an example in this work, two approaches by once the European Commission in its sector inquiry from 2007 and the FCO in its 2011 sector inquiry have become known for their efforts to find substantial evidence for manipulative behavior by power sellers violating the antitrust laws. The following section I. will shortly introduce the central ideas of the two methods, but also point out the shortcomings. Thereafter, section II. will demonstrate past approaches to prove capital market law infringements at EPEX spot. As a result, it will be shown that none of the past strategies actually led to a proof of manipulations standing up in court (section III.). The current legal system does hence suffer from shortcomings in enforcement of the law.

I. Previous approaches to prove antitrust manipulations

1. The European Commission sector inquiry (2007)

Based on the former Art. 82 TEC (now Art. 102 TFEU), the European Commission conducted a sector inquiry into the European gas and electricity sectors with a focus on the years 2002 to 2006.[662] This inquiry came to the result that there was a substantial scope for excessive pricing at the EEX.[663]

The European Commission bases its findings on several different analyses:

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[662] Commission of the European Communities, Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), SEC(2006) 1724. Accompanied by Commission of the European Communities, Commission staff working document, COM(2006) 851 final.

[663] Commission of the European Communities, Commission staff working document, COM(2006) 851 final, 146 Ref. 436 and p. 150.

(1) The analysis of concentration in generation, mainly looking at ownership of production assets, and the subsequent analysis of concentration in trade both in spot and forward trading serve the purpose of proving market power of the main sellers.[664]

(2) Subsequent, the Commission analyses the scope for excessive pricing in the European power markets. As a piece of evidence, the frequency of bids being the market clearing price in a certain hour is examined, as well as the frequency of bids in the close periphery of the market clearing price.

(3) Eventually, the possibilities to withdraw capacity are assessed using a calculation of plant load factors and observations of plant retirements in the period of examination.

The relevant approaches in proving capacity retentions named in (2) and (3) shall be examined further to see whether they are qualified to prove manipulations convincingly. The Commission acted on the assumption that the residual demand in the power market is supplied by a few or even just one operator.[665] Accordingly, the examination of the operators´ price setting frequency was supposed to reveal all hours in which the "selling bid was equal to the clearing price", resulting in a scope for excessive pricing.[666] The data collected for the case of the EEX did reveal a large number of operators who were alternatively setting the clearing price with their bids. In fact, there were eight operators setting the clearing price in more than 5 percent of the hours examined.[667] On the basis of this data, therefore, the Commission could not conclude that a single operator was influencing the spot market price at the EEX.

In a second step, the European Commission examined which operators placed bids in a +/- 10 percent interval around the clearing quantity to identify "whether any operator offered more than 50 percent of the quantity in that interval.[668] This analysis came to the result that at the EEX, concentration of bids around the clearing price increased rapidly in 2005. The monthly average of "peak hours when the largest price setter controlled more than 50 percent of the offers of electricity offered at a price around the clearing price"

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[664] Ibid, 132 et sqq. The Commission does come to the conclusion that the market concentration allows for the exercise of market power, see e.g. Petra Linsmeier and Christian Hamman, "Die Ergebnisse der Sektoruntersuchung Energie und die neue Energiepolitik in Europa: Konsequenzen für die Entflechtung", *et* Vol. 57, no. 5 (2007), 93.
[665] Commission of the European Communities, Commission staff working document, COM(2006) 851 final, 142 Ref. 428.
[666] Ibid, 143 Ref. 429. The period of examination covered each month of the year 2004 and the first eight months of the year 2005.
[667] Ibid, 144 Ref. 432. For the detailled data also in comparison with other European power exchanges, please refer to Table 20 on p. 144.
[668] Ibid, 145 Ref. 434.

jumped from 11 percent in 2004 to 25 percent in the first eight months of 2005. The same observation was made with regard to the monthly maximum, which increased from 25 percent of the hours in 2004 to 52 percent in 2005.[669] Therefore, the Commission suggested that the EEX might have become a platform for the optimization of peak plants.

This analysis did however not permit inferences on actual capacity retention by power sellers. As the Commission pointed out itself in the report, this data only allowed for an assessment of the scope for manipulations, but not for conclusions whether the scope had actually been used.[670] To verify possibilities to withdraw capacity, the Commission examined the level of utilization of power plants.[671] For this purpose, so-called load factors of power plants owned by the main generators have been calculated. The load factor is defined as follows:[672]

$$\text{Load Factor} = \frac{\text{Effective production of plant x}}{\text{Maximal possible production of plant x}}$$

Throughout the period of investigation covering the years 2000, 2004 and the first trimester of 2005, the Commission found an increase in the correlation between marginal costs of production and load factor of the plants. This observation was especially made for the load factors of low marginal cost plants in Germany.[673] In addition, the Commission found a decrease of total generation capacity for the four main German operators between 2000 and early 2005 despite slowly increasing demand.[674] Based on these findings, the inquiry came to the result that a tighter supply/demand balance developed on the market, and especially plants with low marginal costs did not operate at their maximum at all times.[675] However, also these results did not allow for definite conclusions on manipulations. With respect to variations of the load factors of certain plants, the Commission acknowledged that e.g. cogeneration plants might have been run according to the need to

[669] Ibid, 146 Ref. 436. For the detailled data on Europe´s exchanges please refer to table 21 in the EC report.
[670] Ibid,142 Ref. 428.
[671] Ibid, 146 Ref. 438.
[672] The following formula assumes that all other market terms remain equal and refers to the numbers of hours that the plant has been generating electricity during one production period. For the definition see ibid, 147 Ref. 440.
[673] Ibid, 147 Ref. 442.
[674] Ibid, 149 Ref. 445.
[675] Ibid, 150 Ref. 448. Similar for exemplary weeks in the year 2006 Alfred Richmann and Annette Loske, "Gibt es strategisches Verhalten auf dem Strom-Spotmarkt?," *et* Vol. 57, no. 4 (2007), 9 et sqq.

produce heat instead of focusing in the power production.[676] Furthermore, technical constraints, maintenance obligations, etc. might have falsified the results.[677] Similarly, plant retirements might be explained by the age of the plant concerned.[678]

Therefore, the European Commission sector inquiry did not succeed in providing substantial evidence for actual manipulations by one of the established power sellers that could stand up in court.

2. The FCO sector inquiry (2011)

In its 2011 sector inquiry, the FCO chose a similar approach as the Commission to prove manipulations through capacity retention by the established firms. The authority collected data on marginal cost and operation of power plants for the sample period. Using an ad hoc designed algorithm qualified to identify the optimal operation mode for any generation unit from the data, a comparison with the actual operation mode of the generation units was rendered possible.[679] Since the optimization was conducted from an ex post perspective without uncertainty, a certain tolerance with regard to deviations was taken account of, such that only "considerable reductions in plant operation in substantial time periods can be considered as valid indicators for abusive retention of power plant capacity".[680]

The FCO found 9.9 TWh of unused capacity during the sample period, whereupon in almost any hour examined at least 100 MWh of plant capacity were withdrawn, mainly from hard and brown coal plants (68 percent of all capacity not used).[681] The authority therefore concluded that with the help of the optimization algorithm, some indications for the non-operation of power plants on the part of the huge power generators could be found. The firms´ information with regard to technical restrictions and maintenance of plants, revealing an average outage of about a quarter of the time in the sample period, arouses further suspicion with regard to fair market behavior, since fringe suppliers did have considerable less outages.[682] However, the evidence did not lead to the conclusion of actual abusive

[676] Ibid, 147 Ref. 443.
[677] Ibid, 311 Ref. 998.
[678] Ibid, 149 Ref. 445.
[679] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 134.
[680] Ibid, 148.
[681] Ibid, 157. See also Peter Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel des Bundeskartellamts: Ausgezeichnete Analyse, unzureichende Konsequenzen", *ZNER* Vol. 15, no. 2 (2011), 118.
[682] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 210.

behavior in the market, since tolerable deviations in operation due to the ex post optimization model, as well as trade activities on the intraday market might disprove the findings.[683]

An appropriate proof for manipulative behavior that would result in the initiation of legal proceedings was therefore not part of the sector inquiry.[684] The authority referred to a lack of data and resources to conduct even more complex analyses of market behavior.[685]

3. Conclusion

The above survey of former efforts to prove manipulations of the energy market has revealed serious impediments. In both cases, manipulations could not be proved in spite of serious suspicious facts.[686] An expertise for the German Bundestag from 2011 came to the conclusion that calculations of optimal plant operation could not serve as reliable indicators for manipulations due to lacking or non-verifiable data and the obligatory ex post perspective.[687] The proof of manipulations would rather require detailed behavior-based analyses of the market, followed by a normative evaluation of the facts for which the data collected may only serve as an indicator.[688]

The following section II. will show that also in the field of capital market law, efforts to prove manipulations were not successful. Thereafter, the findings are summarized and a brief outlook on the solution to the shortcomings in enforcement proposed in this work is given.

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[683] Ibid, 157-158.

[684] Fouquet, Dörte, Angela Seidenspinner, and Thomas Füller, "Kurzgutachten Wettbewerbs- und energiepolitische Lücken der Sektoruntersuchung Stromerzeugung, Stromgroßhandel des Bundeskartellamtes vom Januar 2011", 6.

[685] Peter Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel des Bundeskartellamts: Ausgezeichnete Analyse, unzureichende Konsequenzen", *ZNER* Vol. 15, no. 2 (2011), 118. Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, N° B10-9/09, 160.

[686] Similar Konar, *Wettbewerbskonforme Stromgroßhandelspreise: Eine Untersuchung über die Integrität und Transparenz des Energiegroßhandelsmarkts* (München: C.H. Beck, 2015), 61.

[687] Fouquet, Dörte, Angela Seidenspinner, and Thomas Füller, "Kurzgutachten Wettbewerbs- und energiepolitische Lücken der Sektoruntersuchung Stromerzeugung, Stromgroßhandel des Bundeskartellamtes vom Januar 2011", 11.

[688] Fouquet, Dörte, Angela Seidenspinner, and Thomas Füller, "Kurzgutachten Wettbewerbs- und energiepolitische Lücken der Sektoruntersuchung Stromerzeugung, Stromgroßhandel des Bundeskartellamtes vom Januar 2011", 11.

II. Previous approaches to prove capital market law infringements

In the field of capital market law, much less effort has been made in the past years to pursue infringements of the WpHG or the European REMIT rules. In particular the BaFin did not pursue a single case referring to manipulations of the German power market.[689] This fact might be due to the view prevailing among German authorities that capital market law was not applicable to manipulations at EPEX spot.[690] However, there has been one exception to this view: The Public Prosecutor Leipzig has started criminal proceedings against E.ON in 2009.[691] Yet, the proceedings were terminated due to a lack of sufficient grounds for suspicion.[692]

Except from this initiative, there has been no further attempt to pursue manipulations of the energy exchange on the grounds of capital market law.

III. Summary of previous approaches to prove manipulations

While there has been quite a lot of effort and money spent for the prosecution of antitrust infringements related to the manipulation of the energy exchange, few attempts have been made in the field of capital market law. Yet, despite the efforts made in antitrust prosecution, the above analysis has shown that very little has been achieved so far. In spite of repeated strong suspicions during the period of examination and beyond, the prosecution of infringements of the antitrust and capital market laws at the EEX was not successful. It is hence likely, that the law suffers from shortcomings in enforcement – which might in consequence lead to a decline in deterrence and increase the market participants´ incentives to engage in manipulations.

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689 Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 198.

690 Inter alia Monopoly Commission, Sondergutachten 49 - Strom und Gas 2007: Wettbewerbsdefizite und zögerliche Regulierung, 2007, 61 Ref. 194. Also Jahn, "Zur Strafbarkeit von Manipulationen des Handels an der Strombörse EEX in Leipzig," *ZNER* Vol. 11, no. 4 (2008), 306.

691 Michael Grassmann, "Angriff auf Stromkonzerne: Bundeskartellamt untersucht Preispolitik," *Financial Times Deutschland* Vol. (2009).

692 Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 198.

E. Summary of the Second Chapter

The second chapter introduced the key conditions and data of the example used to illustrate the enforcement deficit in complex manipulation cases. Namely, the manipulation strategies observed at the energy exchange were examined from both an economic and a legal perspective. This interdisciplinary approach enabled a detailed analysis of the causes and effects of manipulative behavior.

In section B. it was shown which economic preconditions must be fulfilled for manipulative behavior to be profitable for firms. In a second step, the legal relevance of the strategies described, especially in the field of antitrust legislation, was pointed out. The two elements of the antitrust offense were examined in depth: Based on data from the European Commission sector inquiry dating back to 2007 and the more recent FCO sector inquiry from 2011, market dominance of the power market during the period of examination reaching from 2002 to 2009 could be proved for the four huge German energy suppliers. With regard to the abuse element of the offense, however, this work came to the conclusion that former inquiries did not succeed in providing sufficient evidence for actual manipulations that would have resulted in penalties.

In order to examine whether market participants have incentives to manipulate, section C. conducted an in-depth economic analysis of the German power market, using the tools of industrial organization and game theory. This incentive-based approach revealed that a competitive outcome with market prices equaling marginal cost of production did not constitute an equilibrium in the oligopolized German power market during the examination period. Instead, prices above the competitive level were likely. The Lave and Perekhodtsev model on withholding equilibrium was introduced to show the scope of price increases.

The incentives to manipulate may however be diminished or even be reduced to zero if market participants face a credible threat of punishments for infringements of the law. Antitrust and capital market laws are hence crucial legal instruments to take deterrent effect against manipulations. Section D. of this chapter therefore surveyed previous approaches chosen by European and German antitrust authorities to prosecute suspicious behavior and deliver convincing proof of manipulations. As a result, this work found none of the authorities' efforts to have been successful in the prosecution of manipulations.

In the light of manipulations being attractive to market participants in the absence of effective regulatory deterrence (section C.), one must hence conclude that the energy market during the period of examination did provide huge incentives for infringements of the law. As the analysis, namely in section B. of this chapter, has shown, the regulatory

weaknesses do not originate from a lack of rules that interdict market manipulations. Both, antitrust and capital market laws contain a number of prohibitions that cover the manipulation strategies examined. However, there is a serious lack of enforcement due to the complex structure of the power industry and the exchange environment: For authorities, it is often not possible to distinguish between legal optimization of the power plant parc of an operator and illegal manipulation of the market. These insecurities led to an expected sanction for manipulators close to zero during the period of examination. There was hence almost no deterrent effect of the law that would have had any behavioral impact on market participants.

The following chapters will therefore discuss regulatory measures that are suited to eliminate the shortcomings in enforcement in manipulation cases. Namely, a deterrence approach that has a preventive behavioral effect on market participants will be introduced to close the enforcement gap.

THIRD CHAPTER: IMPROVED PUBLIC MARKET SURVEILLANCE

A. Introduction

"People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices. It is impossible indeed to prevent such meetings, by any law which either could be executed, or would be consistent with liberty and justice. But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary."[693]

Based on the findings from the preceding chapters, that revealed severe shortcomings in enforcement of infringements of antitrust and capital market manipulation bans, this section will focus on a positive analysis of the current sanctioning system with regard to fines (section I) and the probability of punishment (section II). This analysis will reveal an insufficient level of deterrence that is not suited to fill the enforcement gap.

Subsequently, a normative analysis is conducted, aiming at the introduction of a system of **public market surveillance** that combines fines and the probability of fining in an optimal way to reach a preventive behavioral effect on market participants and successfully deter market manipulations. The measures being discussed in this work are:

- A change of paradigm in the public market surveillance that turns from excessive fines to an increased probability of prosecution of infringements, combined with non-monetary sanctions for infringements of the law (this chapter).

- Tightened public surveillance might be accompanied by incentives for private actors, e.g. the aggrieved parties or competitors, to claim damages from the infringer (next chapter).

This chapter will examine the public market surveillance measures named for their suitability to solve the problem with regard to economic, legal and political criteria. It will be shown that there is a necessity for a coordination of capital market law and antitrust enforcement on the one hand and public and private activities on the other hand. This results

[693] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (London: Methuen & Co., Ltd., 1776).

in the claim for **an integrated legal system of public and private enforcement** introduced in the fifth chapter.

The following section B. begins with an introduction on the economic theory of optimal sanctions. Thereafter, the positive and normative analysis of the EU and German system are conducted for capital market law and antitrust enforcement.

B. Public Market Surveillance

Governments traditionally deter infringements of the law by the **threat of sanctions**.[694] In the case of exchange manipulations, **both capital market and antitrust laws** contain sanctions for manipulations of the market outcome.[695] In antitrust, approaches focusing on the economic rationale of legal rules to increase social welfare have long been discussed under the header of the more-economic approach.[696] Accordingly, sanctions – also in capital market law – are subject to efficiency considerations.

Gary Becker and *William Landes* proposed an **internalization approach** aiming at a fine equaling the damage done to third parties by the infringer, such that costs and benefits from the offense are borne by the firm.[697] This approach does however overlook the very purpose of antitrust law to deter violations from happening and not just make them costly to the infringer.[698] Furthermore, the practical application is very difficult in the case of internalization: The harm done to third parties has to be quantified in complex procedures, including both the transfer and the deadweight loss.[699] The **deterrence approach** avoids the quantification of the harm done to the parties and solely focuses on the expected gain of the infringer. For fines to be efficient under this approach, they need to equal the expected gain from the manipulative practice from the point of view of a firm having to decide whether to engage in manipulative practices or not.[700] As a result, the firm shall become indifferent between obeying the law and manipulating, because the expected value of the illegal behavior equals zero.[701]

The expected gain is easily identified as the change in profits due to the adaptation of a manipulation strategy ($\Delta\Pi$). With regard to the expected damage for the firm, we have to distinguish two factors:

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[694] First examined from an economic viewpoint by Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76 no. 2 (1968).
[695] See the second chapter in section B.II. for the legal classification of capacity retention.
[696] Basic thoughts on the methodology of the more economic approach in antitrust may be found in Rainer P. Lademann, "Zur Methodologie des more economic approach im Kartellrecht", in: *Recht, Ordnung und Wettbewerb. Fest*schrift zum 70. Geburtstag von Wernhard Möschel, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 381.
[697] Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 169. Also William M. Landes, "Optimal Sanctions for Antitrust Violations", *The University of Chicago Law Review* Vol. 50, no. 2 (1983), 652.
[698] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 13.
[699] Ibid, 14.
[700] Ibid, 12. Also refer to Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Fest*schrift zum 70. Geburtstag von Wernhard Möschel, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 436.
[701] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 5, 7.

(1) The cost to the firm from the detection (C_D) – this is namely administrative fines determined by the FCO,

(2) and the probability of punishment ($p_P(e)$), composed of the probability of detection of a crime and the enforcement of the existing laws, both dependent on the efforts (e) of the prosecutors.

Interest should also be included in the considerations to compensate for the delay between the point in time when the gain from the manipulation is realized and the point in time at which the fine is due.[702] For reasons of clarity of thought, however, this aspect is disregarded here. This constraint does certainly not falsify the result of the analysis of manipulation deterrents pursued in this work.

Based on the preceding considerations, we get for the expected damage (D_E)[703]:

$$D_E = p_P(e) \cdot C_D.$$

To comply with the initially introduced equality condition, we write:

$$\Delta\Pi = D_E \text{ or}$$

$$\Delta\Pi = p_P(e) \cdot C_D,$$

meaning that the change in profit equals the expected damage. It is important to note, that the optimal fine would have to refer to the subjective estimates the infringer is holding when contemplating a violation of the law.[704] This subjective perspective on the gain and the expected damage from the antitrust violation is due to lacking information and the overconfidence bias of decision makers. People tend to overestimate the probability and amount of positive events, as well as underestimate it for bad things happening.[705] The reference of fines to objectively calculated values for the expected gain and expected damage would therefore lead to underdeterrence of manipulations. Since, however, only objective values for the probability and the cost may be observed, this work will refer to those and recommend the implementation of slightly higher values for the variables in practice to cope with the biases named.

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[702] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 12.

[703] For the case of antitrust violations with a probability of apprehension and conviction smaller than 1 and positive enforcement costs see the seminal work of William M. Landes, "Optimal Sanctions for Antitrust Violations", *The University of Chicago Law Review* Vol. 50, no. 2 (1983), 657. See also ibid, 12.

[704] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 15.

[705] Russell B. Korobkin and Thomas S. Ulen, "Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics", *California Law Review* Vol. 88, no. 4 (2000), 1085-1090.

The two parameters to be optimized by government policy with regard to the above considerations can be deducted directly from the equation:

- **The cost in the event of detection C_D** can be varied, and
- **the probability of punishment** depending on prosecution efforts $p_P(e)$ may be adapted to meet the intended level of deterrence.[706]

Which of the parameters is varied depends predominantly on the cost C any adjustment induces. Any measure adopted is affiliated with a cost C(e) depending on the efforts the regulatory change induces, which has to be subtracted from the welfare gain effective deterrence of manipulations creates.[707] Hence, 100 percent prevention of manipulations is unlikely to be the social optimum.[708] For reason of welfare maximization, the parameter affiliated with the lowest cost should be varied preferably. However, there are limits to the maximum punishment for firms C_D as well as to the efficiency of measures increasing the probability of punishment $p_P(e)$. The following analysis will therefore examine variations of both parameters, using the example of the German power market under economic (II. and III.) and legal (IV.) aspects. Beforehand, the necessary level of deterrence is defined.

I. Determining the necessary level of deterrence

Since the optimal values deduced for p_P or C_D depend on the level of deterrence $\Delta\Pi$ that is needed, this variable has to be defined in a first step. Thereafter, optimal values for C_D and p_P are derived. This analysis is however limited to an objective determination of the variables, with the weakness pointed out in the preceding section. It is still considered useful to serve as a general guidance for fixing fines in practice.[709]

In the introductory chapter, profit has been defined as the difference between a company´s revenue and cost of production.[710] The level of deterrence $\Delta\Pi$ can therefore be understood as the change in revenue R and cost C due to a change in output:

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[706] Michael K. Block, Frederick C. Nold, and Joseph G. Sidak, "The Deterrent Effect of Antitrust Enforcement," *Journal of Political Economy* Vol. 89, no. 3 (1981), 431, 433-434. More generally Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 204.

[707] Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 174. For the case of antitrust sanctions see Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 17.

[708] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 9.

[709] Ibid, 31.

[710] Please refer to the first chapter, section D.I.2 for the detailled derivation.

$$\Delta\Pi = \Delta R - \Delta C.^{711}$$

This work does not aim at the exact numbering of extra profits possibly gained through manipulative tactics. With the exemplary data at hand, any attempt to condense the various influences to a precise statement of the profit increases would be doomed to failure. This is due to the numerous simplifying assumptions made in the model with regard to symmetry of the operating firms and linearity of costs on the one hand.[712] On the other hand, oligopolists might not have been able to reach the optimal level of retention because of already existing threats of punishment.[713] Any deviation from this optimum, however, would also have influenced the change in profits from manipulations $\Delta\Pi$. Eventually, the mere fact that not 100 percent of the market were controlled by the oligopoly[714] and other influences like a changing market demand influenced the results deducted from the model.

Notwithstanding, an example value will be computed on the basis of market demand for the year 2015. This number will serve as an approximation to the necessary level of deterrence $\Delta\Pi$ for the example of the power exchange. It does not claim accuracy and only serves the purpose of illustration of the theoretical scope for manipulations.

We know from the analysis of a possible withholding equilibrium in the second chapter[715] of this work that there exists a Nash equilibrium that maximizes individual profits of power generators operating in an oligopolized market environment. The optimal withholding for a single firm amounts to

$$\Delta x^* = \frac{D}{N\,(N - 1)},^{716}$$

or for the case at hand with four oligopoly firms (N = 4),

$$\Delta x^* = \frac{D}{12}.$$

The last unknown variable left to be determined is therefore market demand D. Data on market demand is publicly available from the German Federal Association of the Energy and Water Industry (Bundesverband der Energie- und Wasserwirtschaft, BDEW). For

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711 Lester B. Lave and Dmitri Perekhodtsev, "Capacity withholding equilibrium in wholesale electricity markets", *CEIC working paper* CEIC-01-01, 10.
712 Ibid, 1, 6.
713 Michael K. Block, Frederick C. Nold and Joseph G. Sidak, "The Deterrent Effect of Antitrust Enforcement", *Journal of Political Economy* Vol. 89, no. 3 (1981), 429 et sqq.
714 The available data for the years 2007 to 2009 suggests a combined market share of the oligopoly of about 80 percent in the production market, see the second chapter, section B.II.1.c) of this work.
715 See B.II.5.b) of this work.
716 Lester B. Lave and Dmitri Perekhodtsev, "Capacity withholding equilibrium in wholesale electricity markets", *CEIC working paper* CEIC-01-01, 9.

2015, the association calculated a gross total demand for power of 548 million MWh per year.[717] Since the market share of the oligopoly only amounted to 62 percent of this sum, for the following exemplary calculation a value of 340 million MWh corresponding to this market share will be assumed.

The optimal withholding for the four oligopoly firms then amounts to

$$\Delta x^* \approx 28 \text{ million MWh.}$$

The estimations based on the Lave and Perekhodtsev model hence reveal a huge quantity of power potentially subject to withholding. The following analysis will therefore establish a corresponding level of deterrence.

II. The optimal value for government fines C_D

In determining the optimal value for C_D and successfully deter manipulations at the energy exchange, the government has two main parameters to set:

- The amount of criminal and civil sanctions by the government (D_G),[718] and
- the framework that determines the scope for damages claimed by injured parties (D_P).

The sum of both values adds up to the cost of detection C_D:

$$C_D = D_G + D_P.$$

The increase of criminal and civil sanctions does not entail huge financial efforts for the government as compared to any measure connected with the increase of the probability of punishment $p_P(e)$:[719]

$$C\ (e_{CD}) < C\ (e_{pP}).$$

[717] BDEW-Schnellstatistikerhebung from August 15, 2016, available online on https://www.bdew.de/internet.nsf/id/FD436AB109EDA397C1257F65003175A0/$file/Stromverbrauch%20Vergleich%202015_2016%20online_o_quartalsweise_Ki_15082016.pdf.
[718] Michael K. Block, Frederick C. Nold and Joseph G. Sidak, "The Deterrent Effect of Antitrust Enforcement", *Journal of Political Economy* Vol. 89, no. 3 (1981), 430-431.
[719] Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 180.

For the case of public fines, the social cost is even close to zero, since it is a simple transfer payment from the offenders to the government.[720] An increase of the probability of punishment does however entail a significant administrative cost including cost borne by the competition authorities and courts, but also costs of lawyers and experts borne by the companies concerned.[721] From an efficiency perspective, the variable C_D should therefore be maximized in order to deter manipulative behavior at minimum cost.[722]

In the following considerations, the focus lies on criminal and civil sanctions imposed by public institutions D_G. The damages claimed by injured parties D_P will be treated separately in the following chapter 4.[723] Therefore, D_P is held constant in the following analysis:

$$D_P = \bar{D}_P.$$

The examination starts with the definition of the relevant baseline scenario under the existing legal rules in both the EU and Germany and then turns to a critical review of the success of the existing legal framework.

1. The baseline scenario: The current level of public fines in European and German law

It is important to note that, other than for the most part of economic models focusing on one singular field of law,[724] D_G is assumed to be the total damages an infringing firm faces with fines and damages having their basis in both capital market (D_M) and antitrust law (D_A).[725] Both fines add up to

$$D_G = D_M + D_A.$$

In the following sections, the respective levels of fines are elaborated for antitrust (a) and capital market law (b).

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[720] The cost of collection of fines does of course have to be added. See ibid, 180.
[721] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 17.
[722] For the case of cartel deterrence see Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 4. Also ibid, 17.
[723] See the third Chapter section D of this work.
[724] See e.g. Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 4. The author explicitly limits its analysis to corporate fines, which excludes fines on individuals, imprisonment and also private damages.
[725] Refer to the first chapter of this work, sections II.1.c), II.2.c) and III. 2.c).

a) Fines for antitrust infringements D_A

Both, the European Commission and the German FCO have published guidelines on the method of setting fines in cases of antitrust infringements in 2006. From these documents, the current level of public fines D_A will be deducted as a baseline scenario in order to draw conclusions on the appropriate amounts of these fines in the following analysis. Other sanctions, especially nonmonetary punishments for infringements of the law (e.g. prison sentences or occupational bans for offenders), are not part of the European rules.[726]

aa) The European Commission guidelines on fines for antitrust infringements

As already pointed out above, the European Union may impose fines to sanction manipulations of powerful undertakings, Article 23(2) of Regulation N° 1/2003.[727] The **guidelines of the European Commission** on fines imposed pursuant to Article 23(2)(a) of Regulation N° 1/2003 were first published in 1998 and further refined in 2006.[728] The explicit target is sufficient deterrence in specific cases to sanction undertakings concerned with infringements and general deterrence in order to keep other undertakings from engaging in behavior contrary to the EC Treaty.[729] The fine is imposed on the undertaking, individual fines for the acting management are not part of the EU guidelines.[730]

The relevant **basis for setting fines** comprises three variables:

- "The value of the sales of goods or services to which the infringement relates" (N° 5),
- the duration of the infringement in years as "a proxy to reflect the economic importance of the infringement as well as the relative weight of each undertaking in the infringement" (N° 6), and
- "A specific amount irrespective of the duration of the infringement, in order to deter companies from even entering into illegal practices" (N° 7).

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[726] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions*", Competition Policy International* Vol. 6, no. 2 (2010), 23.
[727] Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 898 Ref. 5.
[728] European Commission, Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation No 1/2003. Official Journal from September 1, 2006. N° C 210, 2-5.
[729] Ibid, 2 N° 4.
[730] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 23. See also Martin Klusmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1917 Ref. 31.

For each infringement, a basic amount of the fine is determined in a first step.[731] Basically, the **value of sales of an undertaking** is calculated using the best available figures (N° 15) during the last full business year of the undertaking´s participation in the infringement (N° 13) before value added tax (VAT) and other taxes directly related to sales (N° 17).[732] To calculate the basic amount of the fine, a proportion of the value of sales will be set depending on the degree of gravity of the infringement and multiplied by the number of years of the infringement (N° 19).[733] Finally, the so-called "entry fee", a sum of between 15 percent and 25 percent of the value of sales will be added to the basic amount in order to deter undertakings from entering in infringing practices (N° 25). Clearly laid out, the European Commission calculates this basic fine according to the following formula:

$$D_A = \underbrace{\alpha \cdot d_y\,[(p \cdot x) - T]}_{\text{Specific deterrence (Sanction)}} + \underbrace{\beta \cdot [(p \cdot x) - T]}_{\text{General deterrence}},$$

where T is the amount of taxes subtracted from the value of sales, d_y the duration of the infringement in years, α the relevant multiplier defining the gravity of the individual infringement and β the multiplier for the general deterrence element. The domain for the gravity multiplier in the equation ranges from 0 to 0,3 (N° 21). Hence, depending on the circumstances of the case gravity (α) may be assessed up to a level of 30 percent of the value of sales[734] and general deterrence (β) has a domain from 0 to 0,25[735].

In a second step, potential adjustments to the basic amount are assessed, taking account of all the relevant circumstances in each individual case that might either increase (N° 28) or decrease (N° 29) the basic amount determined before.[736]

Finally, N° 32 of the Commission´s guidelines sets a legal maximum amount for the total fine that shall not exceed 10 percent of the total turnover in the preceding business year

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[731] Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 472.
[732] Ibid, 474.
[733] For details on the graivity factor see ibid, 473-474.
[734] The European Commission names a number of factors that influence the assessement of gravity such as the nature of the infringement, the combined market share of all the undertakings concerned, the geographic scope of the infringement and whether or not the infringement has been implemented. See European Commission, Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation No 1/2003. Official Journal from September 1, 2006. N° C 210, 3 N° 22.
[735] In case of hardcore cartels, markups of 15 percent to 25 percent are mandatory in the guidelines, however, for the case of other infringements, the Commission has a margin of discretion including also the choice of a zero markup. See ibid, 3 N° 25.
[736] Ibid, 3 N° 27. See also Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 472.

of the undertaking.[737] Furthermore, N° 35 contains a provision for cases where the fine imposed on an undertaking exceeds the ability of this firm to pay from an objective point of view.[738]

All things considered, the European guidelines for the determination of the amount of the public punishment D_G do therefore not satisfy the above-defined condition for the optimal level of deterrence.[739] First, the guidelines are ignorant of the subjective view decision makers in a firm have on the expected gain, fines and the probability of punishment. This imprecision leads to inaccurate calculations of fines for violations. Furthermore, the influence of the probability of punishment $p_P(e)$ on the level of deterrence is not part of the calculation method in the guidelines. Therefore, D_G might be set too high or too low as compared to the above-described optimality condition. Third, the Commission´s considerations solely discuss D_G, where the total cost from detection C_D to the infringer is the sum of public and private damages D_P.[740] Yet, the ignorance of the cost to be expected from private damage claims[741] does reinforce the presumption that the EC values for D_G might exceed the efficient level and therefore cause unnecessary cost to society.[742] The examination of past experience with the EC guidelines (subsection (2)) following the discussion of the FCO standards will reinforce this observation.

bb) The German FCO guidelines on fines for antitrust infringements

Also in Germany, the general rule for public fines in Sec. 81(4) GWB[743] has been concretized with the help of administrative principles.[744] These **German FCO guidelines** on the determination of fines, imposed pursuant to Sec. 81(7) GWB[745] date also to 2013

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[737] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 4.
[738] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61, no. 12 (2011), 1239.
[739] See section C.III. of this chapter of this work.
[740] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 9.
[741] Also for the purpose of this analysis, D_P has been held constant, yet will be considered in section D. of this chapter as part of the total damages to be paid by an undertaking C_D being held liable for manipulative behavior.
[742] Already before the introduction of the 2006 guidelines, sanctions in the EU ranked among the highest in the world and were supposed to further rise with the introduction of the 2006 guidelines. See e.g. Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 470, 482.
[743] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1032 Ref. 83.
[744] Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 430.
[745] Federal Cartel Office, Leitlinien für die Bußgeldzumessung in Kartellordnungswidrigkeitenverfahren, 2013.

and resemble the EC guidelines in methods and contents.[746] In Germany, other than under the EU guidelines, fines for individual actors according to Sec. 9 OWiG are possible for authorized representatives of an undertaking.[747] The circle of offenders is further extended to individuals with supervision obligations, Sec. 130 OWiG.[748]

The individualized fine is dependent on the type of antitrust infringement. The maximum fine is only exhausted for hardcore cartels and not in manipulation cases.[749] The calculation is based on two steps. First, a basic amount of the fine depending on gravity and duration as well as the potential damage done with the infringement is determined.[750] A multiplicator applies to take account of the individual firm´s size (N° 13). The second step is, in line with the EC guidelines, optional adjustments to the basic amount. These may be increasing factors like the 100 percent markup for the purpose of deterrence or aggravating circumstances (N° 16), but also factors that decrease the fine.[751]

Also according to the German guidelines, the calculated fine is fixed upwards at 10 percent of the total turnover in the preceding business year (N° 8). In case of a fine exceeding the financial capacity of a firm also in the long term, the FCO may reduce the amount.

A synopsis of the German guidelines comes to the same conclusions as for the EC provisions above: A pinpoint determination of the optimal value for D_G cannot be achieved. Also, the resulting fines tend to be unduly high with an upward trend.[752] The following subsection (2) will present empirical evidence on the practical experience with the EC and FCO method of setting antitrust fines.

cc) Experience with the baseline scenario for D_A

In the past decades, fines for antitrust infringements have risen dramatically in the European Union.[753] Data for the years 1990-2009 shows how the EU total of corporate

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[746] With regard to the predecessor from 2006 Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 470, 471. See also Andreas Mundt, "Die Bußgeldleitlinien des Bundeskartellamtes", *WuW* Vol. 57, no. 5 (2007), 458, 469.

[747] Martin Klusmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1916-1917 Ref. 31-32. See also Andreas Mundt, "Die Bußgeldleitlinien des Bundeskartellamtes", *WuW* Vol. 57, no. 5 (2007), 466.

[748] Martin Klusmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1917 Ref. 33 et sqq.

[749] Andreas Mundt, "Die Bußgeldleitlinien des Bundeskartellamtes", *WuW* Vol. 57, no. 5 (2007), 460.

[750] Federal Cartel Office, Leitlinien für die Bußgeldzumessung in Kartellordnungswidrigkeitenverfahren, 2013, Ref. 2, 9.

[751] A detailled description of the adjustment factors may be found in Andreas Mundt, "Die Bußgeldleitlinien des Bundeskartellamtes", *WuW* Vol. 57, no. 5 (2007), 462 et sqq.

[752] Ibid, 461.

[753] Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-

fines collected in a five-year period rose from 344 Million Euro between 1990 and 1994 to almost 10 Billion Euro between 2005 and 2009, which is almost 27 times the amount collected in the base period.[754] The following figure illustrates this trend:

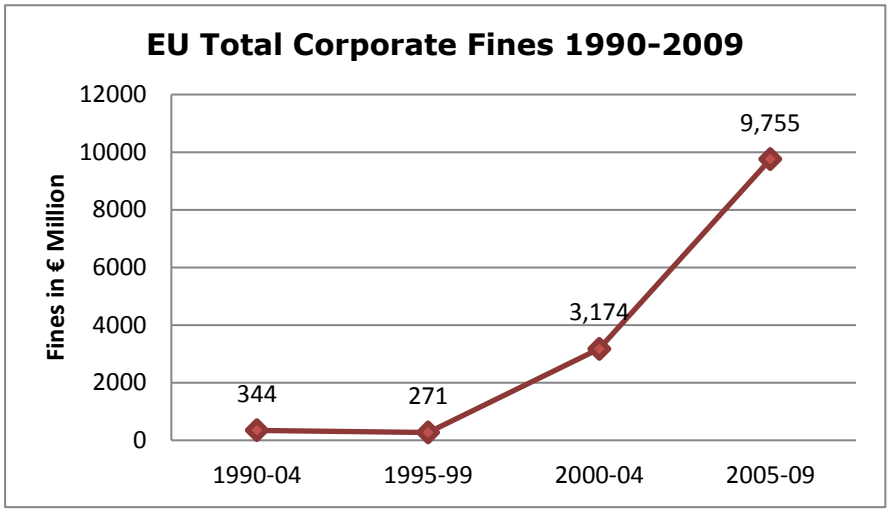

Figure 16: EU Total Corporate Fines 1990-2009

Also, the highest individual fines imposed by the European Commission have risen considerably, especially since the introduction of the guidelines in 1998.[755] In the case of the vitamine cartel[756] from 2001, a fine of altogether 855,23 Million Euro has been imposed. In the same year, a 313,69 Million Euro fine was imposed in the case "Carbonless Paper"[757] and another 218,8 Million Euro fine in the case "Graphit electrodes".[758]

In Germany, the total amount of corporate fines collected increased by about four times the baseline level in the 2005 to 2009 period.[759] Also, fines for individual companies have reached tremendous amounts, as is tellingly illustrated by the case of *Microsoft*[760].

Baden: Nomos Verlag, 2011), 431. See also Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 4. Also Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 8-12.

[754] An almost as big increase can be shown for the EU average corporate fines in the same time period. See Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 11.

[755] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 203. See also Thomas Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 219, 228, 232.

[756] European Commission, decision from November 21, 2001. COMP/37.512 "Vitamin cartels".

[757] European Commission, decision from December 20, 2001. COMP/36.212 "Carbonless Paper".

[758] European Commission, decision from July 18, 2001. EU Official Journal 2002 L 100, 1. "Graphit electrodes".

[759] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61, no. 12 (2011), 1236.

[760] Microsoft v Commission. Case T-201/04. European Court of First Instance 2007.

With regard to the above criticism in the EC and FCO approach to the determination of the optimal public fine D_G, however, it can be doubted whether the ever-increasing fines on the national and European level establish an efficient level of deterrence.[761] The mere fact that violations continue to be detected should not serve as an argument to raise the level of fines endlessly. With regard to the social optimum of deterrence being smaller than 1, a certain number of manipulations will constantly be observed.[762]

The amount of fines C_D is after all limited by the profits (Π) and the assets (A) of the individual firm. For any firm i, the following liability condition does therefore have to be fulfilled:

$$C_D \leq \pi_i(p) + A_i.$$

Penalties causing the infringing firm´s bankruptcy do not have a deterrent effect for the parties involved beyond this barrier.[763] Furthermore, the bankruptcy of a firm entails high social costs for employees, suppliers, customers, creditors and tax authorities.[764] Even if bankruptcy is avoided through an ex post reduction of the fine, the ex-ante threat of high fines leads to excessive expenditures in the fields of corporate monitoring and compliance, which will be passed on to end-customers and cause inefficiencies.[765]

As a consequence, legislators have to link sanctions to the firms´ assets and cannot increase the fines endlessly. Eventually, empirical evidence suggests that **ever-increasing fines do not even have a deterrent effect on antitrust infringements**: According to the statistics introduced above, both the EU and Germany have been increasing corporate fines since the 1990s, yet contrary to the expectations the number of cartel cases did not

[761] A divergent view is hold by Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 432.
[762] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 16.
[763] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61, no. 12 (2011), 1238. See also Bernd Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in *Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann*, ed. Bernd Schünemann and Carlos Suarez Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 290. The EC and FCO guidelines take account of this fact through the ability to pay provisions introduced above.
[764] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 19.
[765] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 5.

decrease.[766] Especially high values of recidivism imply that deterrence based on increasing sanctions is not fit to curtail manipulative practices in the market.[767]

The opposite is true: Undertakings are being overcharged with the financial burden from public fines[768], not yet including private damage claims and fines in other jurisdictions.[769] High transaction costs arise from the complicated system of rules to set fines with their many exemptions and proceedings taking an average of more than four years to be concluded.[770] In summary, the available data suggests that the current strategy to constantly increase antitrust fines does fail to work effectively and meet the target to deter infringements of the law.[771] As well, it falls short of working efficiently since it causes unnecessary cost to society through the increase of transaction costs for firms and authorities.

In conclusion, for the public fines from antitrust infringements D_A the following relation already mentioned above must be noted:

$$D_A = \alpha \cdot d_y [(p \cdot x) - T] \quad + \quad \beta \cdot [(p \cdot x) - T], \text{ where}$$

$$D_A \leq 0{,}1 \cdot (p \cdot x),$$

hence a maximum damage to the firm from publicly imposed antitrust fines of 10 percent of the total turnover in the preceding business year.[772]

Therefore results

$$\alpha \cdot d_y [(p \cdot x) - T] + \beta \cdot [(p \cdot x) - T] \leq 0{,}1 \cdot (p \cdot x).$$

D_A hence depends on a number of variables but does not refer to the economic optimum derived above: $\Delta\Pi = \Delta R - \Delta C$.

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[766] Ibid, 10-12.

[767] John M. Connor and C. Gustav Helmers, "Statistics on Modern Private International Cartels, 1990-2005", *American Antitrust Institute Working Paper* No. 07-01, 38. Earlier studies do also find prove for repeated offense, see for example Richard A. Posner, "A Statistical Study of Antitrust Enforcement", *Journal of Law and Economics* Vol. 13, no. 2 (1970), 394-395.

[768] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61, no. 12 (2011), 1239.

[769] Meinrad Dreher, "Kartellrechtscompliance. Voraussetzungen und Rechtsfolgen unternehmens- oder verbandsinterner Maßnahmen zur Einhaltung des Kartellrechts," *ZWeR* Vol. 2, no. 1 (2004), 76. Refer also to Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61, no. 12 (2011), 1238.

[770] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61, no. 12 (2011), 1238.

[771] Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 289. The author points out the necessity to install efficient control mechanisms.

[772] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions," *Competition Policy International* Vol. 6, no. 2 (2010), 4.

The next subsection b) will describe the baseline situation with regard to fines in capital market law both in Europe and Germany, before section c) concludes on the current level of government fines.

b) Fines for market manipulation D_M

Since section B.III. of the second chapter has shown that market manipulation at EPEX spot may also be subsumed under German capital market law (during the period of examination the former Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV) and European energy capital market law (Art. 5, 2(2) REMIT and Sec. 95 EnWG),[773] firms engaging in such illegal practices might also be charged a (public) fine on the grounds of capital market law. This section will elaborate the scope of these fines and their relationship to the antitrust fines presented above in order to obtain the overall amount of public fines charged for market manipulations D_G.

In **German capital market law**, Sec. 39 WpHG contains the legal consequences for WpHG infringements. Sec. 39(1) N° 1 WpHG qualified infringements of Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV as administrative offenses.[774] Also information based manipulations (Sec. 20a(1) first sentence N° 1 WpHG) and other manipulations (Sec. 20a(1) first sentence N° 3 WpHG) were classified as administrative offenses during the period of examination, Sec. 39(2) N° 11 WpHG and Sec. 39(1) N° 2 WpHG.[775] Today, Sec. 39(3d) N° 2 WpHG contains the qualification of MAR infringements as administrative offences. Sec. 39(4a) first sentence WpHG imposes a **penalty of up to 5 million Euro** for any of these manipulations for individuals and a maximum of 15 million Euro respectively 15 percent of the yearly turnover for legal entities. The actual fine depends on several factors including the profession of the offender, the timing of the manipulation with regard to price formation, and the monitoring mechanisms that have been deceived by the offender, Sec. 17(3) OWiG.[776] This fine may be addressed not only to individuals,[777] but also to legal entities according to Sec. 30 OWiG.[778]

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[773] See second chapter, section B.III.1. on European law and 2. on German law for a detailed discussion.
[774] Ulrich Sorgenfrei, in *Kapitalmarktstrafrecht: Handkommentar*, ed. Tido Park, 2nd ed. (Baden-Baden: Nomos, 2008), 371 Ref. 231.
[775] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 39 Ref. 6.
[776] Sorgenfrei, in *Kapitalmarktstrafrecht: Handkommentar*, ed. Park, 2nd ed. (Baden-Baden: Nomos, 2008), 375 Ref. 243.
[777] The influence of individual fines on the deterrent effect of the law will be discussed in section B.IV.1. b) aa) of the fourth chapter and will therefore not be deepened here. See chapter four, section B.IV.1.b) aa) of this work.
[778] Daniel Zimmer and Matthias Cloppenburg, in *Kapitalmarktrechts-Kommentar*, ed. Eberhard Schwark and Daniel Zimmer, 4th ed. (München: C.H. Beck, 2010), § 39 Ref. 3.

In conclusion, the damage from the detection of market manipulations **to the firm** in German capital market law is therefore:

$$D_M \leq 0{,}15 \cdot (p \cdot x), \text{ if}$$

$$0{,}15 \cdot (p \cdot x) > 15 \text{ Mio. €}.$$

In **European capital market law**, legal consequences for infringements of the REMIT provisions are laid down in the German EnWG code: Sec. 95(1b) and (1c) N° 6 EnWG qualify infringements of Art. 5, 2(2) REMIT as administrative offenses. The fine for all manipulation alternatives reaches up to 1 million Euro plus three times the additional surplus earned through the manipulative practice, Sec. 95(2) first sentence EnWG.[779] This fine is, other than in German capital market law, addressed to firms rather than individuals. Hence, the value for D_M changes to the following amount if European REMIT provisions are included in the accounts:

$$D_M = 0{,}15 \cdot (p \cdot x) + 1 \text{ mio.} + \delta \cdot [(p^{**} \cdot x) - (p \cdot x)],$$

where δ is the factor for the levy of additional revenues reaching from 0 to 3 and the term $[(p^{**} \cdot x) - (p \cdot x)]$ the additional revenue, which may be estimated by the regulator, Sec. 95(2) second sentence EnWG.

c) Conclusion on the current level for public fines D_G

In conclusion, therefore, the total amount of public fines D_G for firms engaging in capacity retention needs to be summed up from antitrust fines D_A and capital market fines D_M:[780]

$$D_G = D_A + D_M.$$

Plugging in the values derived from the above analysis de lege lata, D_G adds up to a maximum penalty of:

$$D_G = \underbrace{0{,}1 \cdot (p \cdot x)}_{\text{Antitrust fines}} + \underbrace{0{,}15 \cdot (p \cdot x) + 1 \text{ mio.} + \delta \cdot [(p^{**} \cdot x) - (p \cdot x)]}_{\text{Capital market fines}}$$

[779] Bachert, "Befugnisse der Bundesnetzagentur zur Durchsetzung der REMIT-Verordnung," *RdE* Vol. 24, no. 9 (2014), 365.
[780] For the parallel applicability please refer to the fifth chapter in section B.III. of this work.

Altogether, firms face a threat of fines reaching from one million if only a mild sentence in capital market law is imposed to up to 15 percent of their yearly turnover plus a share of the additional revenue from the manipulation. With reference to the above display of the tremendous amounts reached in practice today, it may well be doubted whether the initial condition for effective fines,

$$C_D \leq \pi_i(p) + A_i,$$

is still met. This is especially true if one also considers the amounts paid to private damages claimants treated in the following chapter 4 on private market surveillance.[781] The consequences of these huge sanctions and necessary changes in the legal framework will be discussed in the following subsections 2. and IV.

2. Required changes in the legal framework

Hence, from an economic point of view, the establishment of an effective level of deterrence under the existing legal system in both EU and Germany requires several changes in the legal framework[782] that will be further elaborated in the following sections:

- A departure from the dogma of prohibitive government fines,
- an additional, nonmonetary damage variable that increases C_D without further diminishing the financial basis of undertakings,
- a shift towards measures that influence the probability of punishment p_P, as well as
- an integrated system of public and private prosecution.

The following subsection will elaborate an optimal value for p_P and thereby further emphasize the urgent need for tightened rules in that respect. Concrete suggestions on changes in the existing law will be presented for both drivers of deterrence, C_D and p_P, commonly in section IV. The idea of an integrated system of public and private prosecution will only be presented in the fifth chapter after the discussion of tools of private prosecution (section D.).

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[781] Marc-Philippe Weller, "Die Anrechnung pönaler Schadensersatzleistungen gemäß § 33 GWB auf Kartellbußen," *ZWeR* Vol. 6, no. 2 (2008), 171. See also Christian Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," ibid, no. 3, 269.

[782] Similar Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 44 Ref. 179 et sqq.

III. The optimal value for the probability of punishment p_P

The preceding examination of optimal values for D_G has revealed that the current legal framework does operate on the basis of too high public damages. As a consequence, the adaptation of the probability of punishment p_P is a crucial complement to successfully deter manipulations in the energy market.[783] p_P in this model is assumed to depend on the efforts (e) of public (e_G) and private (e_P) prosecution of manipulative behavior[784]:

$$p_P\,(e) \text{ with } e = e\,(e_G, e_P) \text{ and } e \in [0, \bar{e}] \text{ and}$$

$$\frac{dp_P}{de_G} > 0 \text{ and } \frac{dp_P}{de_P} > 0 \text{ for any } e_G, e_P > 0.$$

Private efforts will be discussed in the following section IV. and are therefore not part of the subsequent considerations, e_P is hence treated as a constant:

$$e_P = \bar{e}_P.$$

With regard to public efforts e_G, this model does again consider the effort of both exchange supervisory authorities (e_E) and the FCO (e_F), which add up to e_G:

$$e_G = e_E + e_F.$$

This combined public effort e_G is mainly influenced by the authorities´ financial and staff resources and the legal framework for the prosecution that does indirectly determine the success of prosecution efforts. It is assumed that any one of these measures is affiliated with a cost $C(e_G)$[785]:

$$C\,(e_G) = \gamma \cdot e_G$$

with γ being an exogenous cost parameter and

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[783] For the general idea of the probability of punishment being a necessary complement to the amount of fines see Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 436. Also refer to Emmanuel Combe, Constance Monnier and Renaud Legal, "Cartels: The Probability of Getting Caught in the European Union", *Working paper* (2008), 2. For the case of antitrust see Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 289.

[784] Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 180. For the case of antitrust see Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 12.

[785] Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 174.

$$\frac{dC(e_G)}{d\gamma} > 0.$$

This cost has to be subtracted from the welfare gains from effective deterrence and should therefore be minimized.[786] In this respect, the choice of maximum efforts $\bar{e}$ is no welfare optimum.[787] It can easily be seen that in this model an increase of the financial equipment and/or authority staff would facilitate the discovery and punishment of antitrust infringements.[788] These decisions would at the same time increase the cost of the prosecution of manipulations. Hence, the value of the exogenous parameter γ with regard to staff and resources is a simple question of public choice to be made by politicians, it won´t be discussed any further in this work.[789] Rather, the focus lies on the design of the legal framework prosecutors operate in.

The following examination will start with the definition of a baseline scenario to identify the current probability of punishment p_P under the value for e_G in force de lege lata. Subsequent subsections will then discuss drawbacks under the existing regime and propose changes in the legal framework to optimize p_P in order to establish a level of deterrence effectively suited to prohibit manipulations of the energy exchange.

1. The baseline scenario: The current probability of punishment p_P under the existing legal framework

The probability of punishment p_P (e) depends on several factors. Most importantly, these are:

- The detection rate of manipulations (r_D), and
- the rate of conviction (r_C).[790]

Since the detection of manipulative practices is a necessary first step to a potential later conviction, both elements are linked by multiplication:

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[786] Ibid, 181.
[787] Ibid.
[788] Ibid, 174.
[789] In recent years, certain organizational changes took place to expand the capacity and competence of the FCO in detecting infringements of the GWB. See e.g. Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 430.
[790] Gary S. Becker, "Crime and Punishment: An Economic Approach", *The Journal of Political Economy* Vol. 76, no. 2 (1968), 174.

$$p_P\ (e_G, \bar{e}_P) = r_D \cdot r_C,$$

$$\text{where } r_D,\ r_C\ (e_G, \bar{e}_P).$$

For the **detection rate**, no comprehensive data is available. This deficiency is due to the fact that the detection rate of manipulative practices is smaller than one; hence not all manipulations taking place in practice are detected. As a consequence, the global probability of detection is unknown to the authorities.[791] Numbers for manipulations might only be observed for the "probability of detection conditional on being detected".[792] To date, there are no inquiries quantifying the number of and damage done by manipulative market behavior.[793]

Yet, there are some estimates on the detection rate for collusive agreements, which might serve as an indication for the case of manipulations. These values, since they suffer from the same weaknesses described above for the case of manipulations, may only indicate the upper bound of the instantaneous global probability of detection. Furthermore, the values for the observed probability of detection are positively related to the global probability of detection.[794]

Current estimations in this field suggest an annual value of 0,13 to 0,17 for collusive agreements; hence 13 to 17 percent of the actual number of cartels is being detected per year.[795] More recent data from the EU suggests a similarly low rate of detection of about 13 percent.[796] For international cartels, the American Antitrust Institute found out that discovery rates have been increasing "from four to six per year in the early 1990s to about 35 per year in 2003-2005".[797]

Overall, the values presented here suggest a low probability of detection for cartel agreements. All the more, the connected rate of conviction bears the burden to further decrease

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[791] Maier-Rigaud, Frank and Ulrich Schwalbe, "Quantification of Antitrust Damages", in: *Competition Damages Actions in the EU: Law and Practice*, ed. David Ashton and David Henry (Cheltenham: Edward Elgar Publishing, 2013), 3. See also Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 7.

[792] Emmanuel Combe, Constance Monnier and Renaud Legal, "Cartels: The Probability of Getting Caught in the European Union", *Working paper* (2008), 3. See also Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 474.

[793] Maier-Rigaud, Frank and Ulrich Schwalbe, "Quantification of Antitrust Damages", in: *Competition Damages Actions in the EU: Law and Practice*, ed. David Ashton and David Henry (Cheltenham: Edward Elgar Publishing, 2013), 3.

[794] Emmanuel Combe, Constance Monnier and Renaud Legal, "Cartels: The Probability of Getting Caught in the European Union", *Working paper* (2008), 3.

[795] Peter G. Bryant and E. Woodrow Eckard, "Price Fixing: The Probability of Getting Caught", *The Review of Economics and Statistics* Vol. 73, no. 3 (1991), 531.

[796] Emmanuel Combe, Constance Monnier and Renaud Legal, "Cartels: The Probability of Getting Caught in the European Union", *Working paper* (2008).

[797] John M. Connor and C. Gustav Helmers, "Statistics on Modern Private International Cartels, 1990-2005", *American Antitrust Institute Working Paper* No. 07-01, 38.

the probability of punishment. For this reason and since this work has identified the proof of manipulative practices to be the more urgent problem in establishing an effective level of deterrence[798], no further examination will be made of the factors that influence the rate of detection.[799] Rather, the focus lies on legal parameters with major influence on the **rate of conviction**. This points to the practical problems of producing adequate evidence. The following sections differentiate between the powers to intervention available to the FCO (probability of punishment for antitrust offenses p_F, section a) and intervention powers granted in capital market law (probability of punishment at the EEX p_E, section b).

a) The probability of punishment for antitrust offenses p_F

The probability of punishment for antitrust offenses p_F depends on the legal tools for investigation and prosecution that are at the Commission´s and FCO´s disposal.[800] This section will present the current legal framework for antitrust investigations both in the EU and in Germany with a special focus on the effect any individual instrument has on the rate of conviction.

aa) The European Commission approach to the proof of market manipulations

Under Art. 102 lit. a TFEU, the European Commission has to prove the extortion of an inappropriate price from the consumers.[801] To this end, the inappropriateness of a price (1) as well as the procedural tools available to build a case (2) have to be defined.

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[798] Moreover, it has been shown earlier in this work (see Second Chapter, section C.) that problems in fighting manipulations do occur on the level of proof standing up in court and not so much with regard to the detection of manipulative practices.

[799] An important driver for an increased rate of detection have been so-called leniency programs in recent years that create incentives for firms to cooperate with the antitrust authorities. See e.g. Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert", in: *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 437.

[800] As already outlined above, the financial and staff equipment of the authority which of course also influence the probability of punishment are being excluded from this analysis.

[801] For details on the abuse provision please refer back to the first chapter, section E. II.1.b) of this work.

(1) The identification of an inappropriate price under EU law

The identification of an inappropriate price under EU law is based on a comparison of the price charged with the objective value of the contractual performance.[802] Abuse is being assumed if there is an objective and significant disparity between objective and contractual value; in practice, the price must exceed the objective value by more than 10 percent.[803] Hence, any proof of manipulative behavior is dependent on a convincing determination of the objective value of the good or performance.

In European competition law, different approaches are used to prove the inappropriateness of a price. First, the **profit margin** serves as an indicator for manipulative market behavior. Under this approach, a comparison of the sales price with the production cost has to reveal an excessive profit margin that suggests abusive behavior.[804] However, both the cost analysis and the control of the profit margin are subject to large uncertainty. As a consequence, this concept does not allow for a conclusion that satisfies the needs of substantial proof in court.[805]

More convincing is the second established approach to the proof of inappropriate prices, the so-called **comparable market concept**. The question whether prices in a market are excessive is answered using a comparison with prices charged otherwise.[806] Generally, the comparison has to be conducted in the same product market; different geographical[807] and temporal markets are possible.[808] The indicative effect from objective differences in prices has to be explained by the companies concerned.[809] However, also under this approach does the competition authority have to make several assessments with regard to the comparative price level or the relevance of the difference to the competitive price.[810] As a consequence, the proof of manipulative behavior is in many cases not successful.[811]

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802 Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 929 Ref. 51.
803 United Brands Company and United Brands Continentaal BV v. Commission. Case 27/76. European Court reports 1978, 207 (1978), Ref. 261/266.
804 Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 929 Ref. 51.
805 Ibid, 930 Ref. 52.
806 Ibid, 930 Ref. 53.
807 United Brands Company and United Brands Continentaal BV v. Commission. Case 27/76. European Court reports 1978, 207 (1978), Ref. 261/266.
808 Georg-Klaus de Bronett, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 930 Ref. 53.
809 Ibid, 931 Ref. 53.
810 Ibid.
811 Ibid.

(2) Procedural rights of the EC under EU law

From a procedural perspective, the EC has a number of powers of intervention. Most notably, these are the request for information (Art. 18 regulation N° 1/2003) and the investigation (Art. 20 regulation N° 1/2003), both concretizing Art. 337 TFEU.[812] The request for information aims at the discovery of proof in cases where the Commission has sufficient evidence that circumstances are of relevance from an antitrust point of view.[813] Its power includes the request for a written answer to any question that might be essential to clarify the facts.[814] Also the remittance of documents may be required.[815] Companies have an obligation to cooperate, which is only limited by the privilege against self-incrimination.[816]

Investigations shall support the collection of proof by empowering the Commission to enter the offices of a firm under suspicion of antitrust infringements, see business documents, make copies and ask for explanations. With judicial approval, also private rooms may be the objects of an investigation.[817] In case of formal investigations, the firm has to tolerate the Commission measures, but may consult legal assistance.[818] The national antitrust authorities do have to be informed and consulted[819] and are obliged to provide administrative assistance.[820]

Both investigation powers do not include a right to hear witnesses or confiscate documents.[821]

bb) The FCO approach to the proof of market manipulations

Also, the German FCO needs to provide evidence for offenses against Sec. 19(2) N° 2 GWB referring to a definition of the excessive price (1) and its procedural powers of intervention (2).

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[812] Holger Dieckmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1542 Ref. 1.
[813] Ibid, 1542 Ref. 4.
[814] Ibid, 1546 Ref. 18.
[815] Ibid, 1547 Ref. 19. With reference to Orkem v. Commission. Case 374/87. European Court reports 1989, 3283 and Lombardclub v. Commission. Cases T-259/02 to 264/02 and T-271/01. Reports of Cases 2006 II-05169.
[816] Holger Dieckmann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1547 Ref. 21.
[817] Ibid, 1549 Ref. 24.
[818] Ibid, 1551 Ref. 31.
[819] Ibid, 1550 Ref. 28.
[820] Ibid, 1551 Ref. 32.
[821] Ibid, 1542, 1552 Ref. 1, 34.

(1) The comparable market approach ("Vergleichsmarktkonzept") and the profit margin approach ("Gewinnbegrenzungskonzept")

Abusive pricing is being proved based on the so-called comparable market approach ("Als-ob-Wettbewerb"), Sec. 19(2) N° 2 GWB, where the market outcome in the concentrated market is being compared to the prices that would result from effective competition.[822] This concept is highly similar to the EC approach introduced before: It requires a price higher than in a competitive market and a significant deviation of the abusive price from the competitive level.[823] The main occurrence of this method in practice is the geographical comparable market approach where the price of the relevant enterprise is compared to the prices of other suppliers in the same product market, but in a different geographical market, which is competitive.[824] Any differences in the markets of regional, legal or factual nature are taken account of through corrective surcharges.[825] However, this concept fails to yield sustainable proof in cases where the necessary corrections become too numerous.[826]

Alternative concepts to prove manipulations of the market have been discussed and are allowed in Sec. 19(2) N° 2 GWB. Most notably, the **profit margin approach** referring to an extreme difference between the firm´s cost of production and its revenue has been proposed.[827] However, it has never been of any practical relevance for the proof of price manipulations.[828]

Finally, the FCO has approached the challenge of proving abusive market behavior through **cost controls**.[829] According to the jurisdiction, reproaches based on excessive cost do have to refer to the total price and may not be based on single cost factors or the calculation of the enterprise.[830] This approach gained in importance through the introduction of

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[822] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1003 Ref. 51. Refer also to Peter Becker, "Kartellrechtliche Kontrolle von Strompreisen," *ZNER* Vol. 12, no. 4 (2008), 292.

[823] For the affirmation of abuse, a price difference of 5 to 15 percent is required. Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1006, Ref. 55. Referring to Higher Regional Court (OLG) Düsseldorf, decision from February 11, 2004. VI-Kart 4/03 (V) "TEAG".

[824] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1004-1005 Ref. 53.

[825] Ibid, 1005 Ref. 53.

[826] This is the case where more than 50 percent of the notional price analogous to the competitive price is based on corrective assessements. See German Federal Court of Justice, decision from December 2, 1980. KVR 3/79 "Valium II".

[827] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1003 Ref. 51. The concept is the German equivalent to the profit margin approach used by the European Court of Justice in the case United Brands Company and United Brands Continentaal BV v. Commission. Case 27/76. European Court reports 1978, 207 (1978). Refer also to Becker, "Kartellrechtliche Kontrolle von Strompreisen," *ZNER* Vol. 12, no. 4 (2008), 292 et sqq.

[828] Gerhard Wiedemann, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1003 Ref. 51.

[829] Ibid.

[830] Higher Regional Court (OLG) Düsseldorf, decision from February 11, 2004. VI-Kart 4/03 (V) "TEAG".

Sec. 29 first sentence N° 2 GWB which does explicitly refer to prices that inappropriately exceed the cost of production.[831] However, in many cases the cost control concept suffers from lacking information of the competition authorities on the exact cost of production.[832] In practice, the FCO does therefore not succeed to convincingly prove manipulations in court.

(2) Procedural rights of the FCO

The FCO is entitled to collect all evidence and conduct any investigation necessary to identify the existence of antitrust infringements, Sec. 57(1) GWB. This includes the request for information, Sec. 59 GWB. Sec. 59(1) GWB postulates a right to information, Sec. 59(2) GWB a right to inspection and verification, and Sec. 59(4) GWB codifies the right to conduct a search upon order of a judge.[833] Furthermore, proof is possible through the hearing of witnesses and experts (Sec. 57(2) GWB) and the confiscation of documents (Sec. 80 GWB).[834] In fine proceedings, the investigation powers are based upon the German Code of Criminal Procedure (StPO), due to Sec. 46 OWiG.[835]

The request for information and the investigation do, with regard to their design, both resemble the Commission powers described above.[836]

cc) Experience with the baseline scenario for p_F

The considerations above show that the probability of punishment is – even if hard to measure – substantially low.[837] In many cases, the European Commission and the **FCO lack the legal tools to collect adequate evidence in manipulation cases**. The latest

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[831] Raliza Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 358.
[832] Different ibid, 375.
[833] Tobias Klose, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1792 Ref. 1.
[834] Ibid, 1842-1843 Ref. 106, 112.
[835] Tobias Klose, *Handbuch des Kartellrechts*, 2nd ed., ed. Gerhard Wiedemann (München: C.H. Beck, 2008), 1793 Ref. 6.
[836] Refer to Sec. B.III.1.a)aa)(2) of this chapter.
[837] Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 290.

display of this problem may be seen in the FCO sector inquiry, which fails to deliver evidence for the initiation of proceedings against the firms under suspicion of market manipulations.[838] Many other cases end with settlements due to a lack of evidence.[839]

Hence, the current legal framework does not provide sufficient rights of intervention for the antitrust authorities to successfully prosecute potential manipulators in the energy market. The consequences and necessary changes in the legal framework will be discussed in the following subsections 2. and IV. Previously, the baseline situation for the probability of punishment at the EEX under capital market law will be displayed.

b) The probability of punishment in capital market law

This chapter will examine the question whether the probability of punishment with regard to market manipulations is bigger in capital market law than in antitrust. A look towards both, the European and the German approach to the proof of manipulations and the tools for investigation and prosecution available to the competent authorities is required.

aa) The European tools to prove energy capital market law infringements

At the European level, the Agency for the Cooperation of Energy Regulators (ACER) together with the National Regulatory Authorities is the competent authorities to prosecute infringements of the REMIT provisions. ACER has published a (non-binding) guidance on the application of REMIT that is supposed to help the National Regulatory Authorities (in Germany the Federal Network Agency (BNetzA) and the FCO) monitor the REMIT compliance of market participants according to Sec. 35, 95(5) and 54 EnWG and Sec. 48(3) GWB.

With regard to market manipulation cases as treated exemplary in this work, the guidance defines diverse types of market abuse and concretizes the application of the prohibition of market manipulation.[840] It names precisely possible signals of market manipulation that might indicate an infringement of the REMIT prohibition in section 8.3.2. Especially the signal h) is interesting: It considers trades "that on a stand-alone basis would be uneconomic and counterintuitive" suspicious of triggering a manipulation e .g. by increasing the

[838] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09, 160.
[839] Refer e.g. to the EU Commission sector inquiry. See the second chapter of this work, section C.I.1.
[840] ACER, Guidance on the application of Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency, 2013.

market price and thereby enabling a market participant to profit to a high degree from separate trading activity.[841] The wording seems to point towards manipulations through capacity retention at energy exchanges.

With regard to the detection of manipulations, the guidance relies on reporting of suspicious transactions by persons professionally arranging transactions in wholesale energy products.[842] Also, ACER itself may examine the data reported to them by market participants and the National Regulatory Agencies according to Art. 8 REMIT in order to find suspicious trades.

Having regard to the **powers of investigation and intervention**, the Federal Network Agency may demand information and documents from natural and legal persons if necessary for the monitoring of the compliance with the REMIT prohibitions of insider dealing and market manipulation, Sec. 69(11) EnWG. The right to confiscate documents or objects is however not covered by the provision.[843] Furthermore, the Agency is empowered to use the rights defined in Art. 13(2) REMIT, Sec. 56 second sentence EnWG. These include the power to demand the termination of particular practices and their replacement through concrete measures named by the BNetzA, Sec. 56 second sentence in conjunction with Art. 13(2) second sentence lit. e) REMIT with reference to Sec. 65(1) and (2) EnWG.[844]

Besides the EnWG enabling provisions, the German legislator has introduced a Market Transparency Unit at BNetzA and FCO in order to comply with the REMIT requirements.[845] This unit is supposed to continuously monitor the energy wholesale market in order to find irregularities in pricing that might be based on the abuse of market power, insider information or market manipulation, Sec. 47b(1) GWB. Furthermore, this unit is the competent body for the monitoring and collection of data and information required by the REMIT regulation, Sec. 47b(2), (3), (6) GWB.

The unit is equipped with powers according to Sec. 59 GWB, which refer to requests for information (Sec. 47d(1) GWB). Furthermore, it may exert powers according to Art. 7(2) and (3), Art. 4(2) second sentence, Art. 8(5) first sentence and Art. 16 REMIT (Sec. 47d(2) GWB). With regard to EPEX spot manipulations, foremost the Sec. 59 GWB powers are of interest. Those are the same powers described above with reference to the

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[841] Ibid, 53.
[842] Ibid.
[843] Bachert, "Befugnisse der Bundesnetzagentur zur Durchsetzung der REMIT-Verordnung," RdE Vol. 24, no. 9 (2014), 363-364.
[844] Ibid, 363.
[845] Act on the Establishment of a Market Transparency Unit for Wholesale Trade in Electricity and Gas (Markttransparenzstellengesetz), Federal Law Gazette 2012 I-2403, published on December 11, 2012.

field of antitrust (e.g. right to information, inspection, verification and conducting searches).[846]

bb) The German tools to prove energy capital market law infringements

In fulfilling the EU requirements, Germany relies on the collection of comprehensive data on transactions in energy wholesale products in order to uncover manipulations of the market. The data is continuously checked for inconsistencies by the Market Transparency Unit, which yields suspicious cases to the competent authority (Sec. 47a(1), 47b(1), 47b(7) GWB).

Furthermore, the compliance of market participants with the German WpHG rules is monitored by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin), Sec. 4(1) WpHG. It may demand information and documents from anybody who is suspicious of the infringement of a WpHG prohibition, Sec. 4(3) WpHG. Furthermore, the authority is empowered to enter the business facilities of persons obliged to provide information during business hours and – in case of imminent danger – also beyond this time, Sec. 4(4) WpHG. Facts that give rise to the suspicion of a crime according to Sec. 38 WpHG need to be reported to the competent Public Prosecution Service, Sec. 4(5) WpHG.

In 2010, 1.31 billion transactions were reported to the BaFin, 1197 of which were analyzed with regard to a potential abuse of the market. Only 30 of these transactions were recommended for a further examination with regard to market manipulations. This number is considerably low, which points to a huge estimated number of unreported cases. Even if criminal proceedings are started, convictions are the exemption (only 7 in 2010 for market manipulations)[847]. This **low probability of detection and prosecution** might be due to the complexity of the field of capital market law and problems to prove the subjective elements of the crime (e.g. intent) on the one hand, but also to restrictions of resources at the BaFin and the Public Prosecutors in this field. However, these facts may not serve as a satisfactory explanation of the enormous discrepancy between the anecdotic and journalistic hints and the actual number of examinations.[848]

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[846] Tobias Klose, in *Handbuch des Kartellrechts*, ed. Gerhard Wiedemann, 2nd ed. (München: Beck, 2008), 1792 Ref. 1.
[847] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), 2055 Ref. 14.
[848] Ibid, 2055-2056 Ref. 14.

cc) Experience with the baseline scenario for p_E

Even though the above outline of instruments for intervention has shown a wide range of powers for authorities to prosecute suspicious transactions, the probability of detection and subsequent punishment is still very low. In practice, authorities either don´t recognize their responsibility – the German Monopoly Commission´s belief that Sec. 20a WpHG was not applicable on commodities exchanges demonstrates this misjudgment in an exemplary manner[849] – or they lack adequate instruments and capacity to collect proof that may support a case.[850]

Furthermore, the competence of an authority is not always clear and unique: Especially in the case of market manipulation at an exchange, **several authorities might be concerned: At the national level, these are FCO, BNetzA and BaFin**. And there are more (e.g. European Commission, ACER) at the European level. A strong, comprehensive monitoring of market manipulations is hardly possible in the light of this administrative equivocality.[851]

In conclusion, the probability of punishment in the field of energy capital market law appears to be even smaller than in antitrust. The low number of cases pursued by the authorities in the past years reinforces this finding.[852]

2. Required changes in the legal framework

The above analysis has shown that also with regard to the probability of punishment, an effective level of deterrence is not achieved under the existing legal system in both EU and Germany. Several changes in the legal framework are necessary to deter manipulations successfully. The following sections will further discuss the following possible adaptations of the legal framework in **antitrust**:

- An alternative approach to prove manipulations based on the firms' profits,
- the shift of the burden of proof from the authorities to the suspected firms,

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[849] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 125. With reference to Monopoly Commission, Sondergutachten 49 - Strom und Gas 2007: Wettbewerbsdefizite und zögerliche Regulierung, 2007, 61 Ref. 194.
[850] Cieslarczyk and Horstmann, "Marktmissbrauch im Energiehandel?: Die Empfehlung von ERGEG und CESR zur Entwicklung eines spezifischen Regelwerks gegen Marktmissbrauch auf den Energiemärkten," *emw* Vol. 6, no. 8 (2008), 28.
[851] Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 223.
[852] Ibid, 198.

- the introduction of leniency programs for the case of market manipulations.

Also in **capital market law**, changes of the legal framework have to be considered, mainly with regard to the cooperation of the market monitoring authorities involved.

IV. Legal tools to meet the level of deterrence

The above economic analysis has revealed that the existing legal framework for the public prosecution of manipulative behavior has several weaknesses both with regard to the cost to a detected firm D_G and the probability of punishment p_P. As a consequence, **deterrence based on the current fining system is ineffective** and does not help to decrease the number of antitrust infringements.[853] Legal measures to adapt the current systems to the necessary level of deterrence have been named at the end of each subsection. This paragraph will introduce the legal changes suggested and show how they change the incentive scheme for manipulations at the energy exchange.

1. Changes with regard to the damage from government fines D_G

Since section II. of this chapter has identified too high and misdirected government fines D_G as one reason for the deviation from the optimal level of deterrence, this section will treat different approaches that are suited to set fines to the right level. It will also be discussed which of the changes is most effective and most efficient in fighting the manipulation incentive.

The following approaches will be discussed:

- A departure from the dogma of prohibitive government fines (a),
- the shift of liability from firms to individuals including the discussion of criminal sanctions (b)(aa) and (bb)), and
- an additional, nonmonetary damage variable that increases C_D without further diminishing the financial basis of undertakings: debarment from the employment market (b)(cc).

[853] Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 42-43 Ref. 175 et sqq.

a) A new reference for the calculation of public fines de lege lata

First and most importantly, the reference for the calculation of government fines needs to be adapted to the efficient level. To date, both the EC and German guidelines on fines for antitrust infringements refer to the turnover achieved from the infringement.[854] In many cases, this policy violates the liability condition for firms:

$$C_D \leq \pi_i(p) + A_i.$$[855]

As a consequence, firms being subject to a fine in antitrust cases face the danger to become insolvent.[856] The **economic analysis** has shown that this result is neither an effective deterrent for potential manipulators, nor an efficient tool to fight manipulations from the point of view of society.[857] With regard to profits, both EU and German law contain a cap. Accordingly, fines may not be higher than 10 percent of last year´s sales.[858] Both guidances do furthermore contain provisions for the case of inability to pay of a firm.[859] Yet, the ex post reduction of fines corresponding to the firms´ ability to pay lowers the deterrent effect below the level required to meet the optimum.[860]

Therefore, the calculation of fines both under EU and German law has to be subjected to a revision that takes account of the probability of punishment p_P and other damages that an infringer faces in the event of antitrust violations, e.g. private damages claims and fines from other fields of law.[861]

From a legal point of view, the EC and FCO approaches in their guidelines do also meet with criticism. The following **legal analysis** will treat concerns with regard to violations of higher-ranking European and German law through excessive fines. It will be shown that under EU law, the current level of fines violates Art. 23(5) Regulation N° 1/2003 if fines

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[854] See e.g. Wernhard Möschel, "Geldbußen im europäischen Kartellrecht", *Der Betrieb* Vol. 63, no. 43 (2010), 2378.

[855] For the derivation of this correlation, please refer back to section II.1.a) cc) in this chapter.

[856] A recent case was the fire-fighting vehicles case. FCO decision from February 10, 2011. B12-11/09. As a consequence of the 8 Million Euro fine, the firm filed bankruptcy. See Südwest Presse from August 17, 2011. http://www.swp.de/unternehmen/news/Insolvenz-Kartellstrafe-Geschaeftsbetrieb-Insolvenzverwalter-Einschraenkung-Jakarta-Kroatien-Zagreb-Winschoten-Rendsburg-Muenchen-Giengen-an-der-Brenz-Indonesien-Niederlande-Muehlau-Heidenheim-Giengen-Aalen;art1168007,1079386.

[857] Similar Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 41 Ref. 171.

[858] For EU law, see Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 471. Refer to Andreas Mundt, "Die Bußgeldleitlinien des Bundeskartellamtes", *WuW* Vol. 57, no. 5 (2007), 458, 465 with regard to German law.

[859] See Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 481 for the case of the EU. See also Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 22. For the practical experience with the provisions refer to Andreas Weitbrecht and Jan Mühle, "Europäisches Kartellrecht 2010," *EuZW* Vol. 22, no. 11 (2011), 420.

[860] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 19.

[861] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change.* (Stuttgart: GleissLutz, 2008), 9.

have the quality of criminal sanctions.[862] Consequently, D_G needs to be reduced below this threshold de lege lata (section aa)). Under German law, the current level of antitrust fines conflicts with the constitutional guarantee of legal certainty codified in Art. 103(2) GG (section bb)). Hence, just as for the case of EU law, fines may not exceed the threshold to criminal sanctions. De lege ferenda, the legislators both in the EU and Germany need to define precise criteria for the calculation of fines and reorganize the administrative procedures for the fining (section cc)).

aa) Violations of higher-ranking European Law

The legal predecessor of the current guidelines from 1998 has been subject to judicial litigation at the European Court of Justice in 2005.[863] The court came to the conclusion that the guidelines do not violate primary Community law.[864] Concerns with regard to a violation of the protection of legitimate expectations (Ref. 171-173, 187-188 and 228) and the prohibition on retroactivity (Ref. 202, 216-219, 222-224, 227-231) were negated in the judgment.[865] The court emphasized the predictability of changes in fining and the wide discretion of the Commission in defining both the method of calculation and the scope of fines.[866]

Concerns with regard to the requirement of legal certainty, the principles of proportionality and equal treatment and the prohibition of arbitrary procedures were not treated in the decision.[867] These objections continue to be raised against the revised guidelines effective since 2006.[868] In order to determine whether the EC guidelines violate higher-ranking European law, **the legal character of the guidelines** has to be defined in a first step. Art. 103(1) TFEU empowers the European Council to adopt directives and regulations that aim at the realization of the EU competition rules set forth in Art. 101 and 102 TFEU. With

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[862] Ibid, 82.

[863] Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 471.

[864] Dansk Rørindustri v Commission. Cases C-189/02 P, C-202/02 P, C-205/02 P, C-208/02 P, C-213/02 P. European Court Reports 2005, I-5425.

[865] Ibid.

[866] Ibid, Ref. 252, 254, 258, 260-261, 267.

[867] For an overview of the objections against the 1998 guidelines please refer to Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 944 et sqq. With regard to the requirement of legal certainty also refer to Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot. Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 202 et sqq.

[868] See e.g. Jürgen Schwarze, "Rechtsstaatliche Defizite des europäischen Kartellbußgeldverfahrens", *WuW* Vol. 59, no. 1 (2009), 6 et sqq.

regard to fines, Art. 103(2) lit. a) TFEU emphasizes the role of public fines in the enforcement of the abuse prohibition. Hence, primary Community law basically refers to fines as part of the sanctioning system.[869]

Art. 23 regulation N° 1/2003 contains details on the scope of public fines. Since it is itself secondary Community law, it does however have to fulfill the requirements of higher-ranking EU law.[870] These are:

- The Charter of Fundamental Rights of the EU[871],
- the European Convention on Human Rights (ECHR),[872] and
- common constitutional principles and traditions of the member states according to Art. 6(3) and Art. 2 TEU.[873]

Violations of these statutes may not be justified by Art. 23 (5) of Regulation N° 1/2003 which is itself secondary to higher-ranking Community law.[874] Therefore, the European method of levying fines has to be in accordance with the above-listed sources of primary Community law.[875]

The following sections will show that:

1. De lege lata, only fines below the threshold of criminal law are in accordance with primary EU law (2)-(5), and
2. criteria allowed for setting fines are only the gravity and the duration of the infringement; where gravity is interpreted as a reference to the gain firms realize through cartelization (6).

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[869] Wernhard Möschel, "Geldbußen im europäischen Kartellrecht", *Der Betrieb* Vol. 63, no. 43 (2010), 2378.
[870] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change.* (Stuttgart: GleissLutz, 2008), 13.
[871] According to recital 37 of the preamble to Regulation N° 1/2003, the fundamental rights particularily recognized in the Charter of Fundamental Rights of the EU are respected by the Regulation. See Koen Lenaerts, "Due process in competition cases", *NZKart* Vol. 1, no. 5 (2013), 175.
[872] Kurt Stockmann, "Stellungnahme zum Zwischenbericht des Bundeskartellamtes zum Expertenkreis Kartellsanktionsrecht," *ZWeR* Vol. 13, no. 3 (2015), 191.
[873] Wernhard Möschel, "Geldbußen im europäischen Kartellrecht", *Der Betrieb* Vol. 63, no. 43 (2010), 2378.
[874] Ibid.
[875] Koen Lenaerts, "Due process in competition cases", *NZKart* Vol. 1, no. 5 (2013), 175.

(1) The guiding principles of EU law

The European Union law needs to comply with general constitutional principles, in particular the guarantee of the **rule of law**, Art. 2 TEU. This includes from a formal viewpoint the principle of the division of powers, priority and reservation of the law and the principle of a regulated procedure. From a material viewpoint, the rule of law guarantees the protection of fundamental rights and the principle of proportionality.[876] By the case law of the European Court of Justice, concrete legal principles resulting from the rule of law have been formulated: The protection of legitimate expectations[877], the prohibition on retroactivity[878], the principle of legal certainty[879] and procedural guarantees[880]. The compliance of Art. 23 Regulation N° 1/2003 and the European Commission guidelines on fining with these basic legal principles will be examined in subsections (2) to (5).

Furthermore, the European Union acceded to the **ECHR**, Art. 6(2) TEU. This convention contains requirements for the right to a fair trial and the principle of "no punishment without law", which also apply to sanctions that are not of strictly criminal nature, but comparable to administrative offences.[881] Hence, fine proceedings under competition law have to satisfy these requirements of the ECHR.[882]

According to its preamble, the **Charter of Fundamental Rights** of the EU is part of the European treaties and has full legal effect since the Treaty of Lisbon in December 2009. According to a verdict of the European Court of Justice (ECJ) from 2006, it has relevance for the interpretation of European competition law.[883] Regulation N° 1/2003 is to be interpreted and applied in accordance with the rights and principles from the Charter of Fundamental Rights.[884] The charter contains fundamental rights with relevance for undertakings, such as the freedom to choose an occupation (Art. 15), the freedom to conduct a business (Art. 16), the right to property (Art. 17), the principle of equality before the law (Art. 20), and the guarantees of fair administrative proceedings and a fair trial (Art. 41 and 47). The imposition of fines according to Art. 23 Regulation N° 1/2003 might affect

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876 Christian Calliess, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 2 EUV 25.

877 De Compte v Parlament. Case C-90/95. European Court Reports 1997, I-1999 Ref. 35 et sqq.

878 Racke. Case 98/78. European Court Reports 1979, 69 Ref. 20.

879 Gondrand Freres. Case 169/80. European Court Reports 1981, 1931 Ref. 17.

880 Unectef v Heylens. Case 222/86. European Court Reports 1987, 4097 Ref. 15.

881 Öztürk v Germany. Case 58544/79. ECtHR NJW 1985, 1273 Ref. 56.

882 Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 24-25.

883 European Parliament v Council of the European Union. Case C-540/03. European Court Reports 2006, I-5769 Ref. 38.

884 See recital 37 of Regulation N° 1/2003. Koen Lenaerts, "Due process in competition cases", *NZKart* Vol. 1, no. 5 (2013), 175.

these legal guarantees. As a consequence, Art. 52(1) first sentence of the Charter of Fundamental Rights states the necessity of the legislator himself having to regulate all material issues with regard to any limitation on the exercise of rights and freedoms recognized by the Charter.[885]

(2) Fines above the threshold of criminal law violate the principle of legal certainty

In its current form, Art. 23 of Regulation N° 1/2003 violates the principle of legal certainty. This section will start with a short illustration of the contents of the requirement of legal certainty (a) in general and for the case of criminal law in particular. The applicability of the certainty standards (b) and the necessary level of certainty for the case of Art. 23 of Regulation N° 1/2003 (c) will be deduced. It will be shown that the current Art. 23 of Regulation N° 1/2003 does not satisfy the standards identified before (d). A justification for the lack of legal certainty may not be found (e). As a result, the norm needs to be interpreted restrictively (f).

(a) The rule of law and the principle of legal certainty

The requirement of legal certainty under EU law results from the rule of law.[886] Also legal entities may rely on this principle.[887] The European Court of Justice interprets the requirement of legal certainty as a fundamental principle of EU law that demands clear and foreseeable Community legislation.[888] These **requirements of clearness and foreseeability** are of particular importance in cases with potential financial consequences. The

[885] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 22.
[886] Christian Calliess, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 2 EUV Ref. 25.
[887] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 204.
[888] See e.g. Criminal proceedings against X. Cases C-74/95 and C-129/95. European Court Reports 1996, I-6609 Ref. 25. See also Gerda Kloppenburg v Finanzamt Leer. Case 70/83. European Court Reports 1984, 1075 Ref. 11 and Amministrazione delle finanze dello Stato v Srl Meridionale Industria Salumi and others. Joined Cases 212-217/80. European Court Reports 1981, 2735 Ref. 10.

Court of Justice of the European Communities consistently established that parties concerned by Community law need to be able to assess the scope of their liabilities.[889] Therefore, any act of secondary Community law must be in accordance with the primary requirement of legal certainty.[890]

Besides the general requirement of legal certainty, the European Court of Justice recognizes a more far-reaching requirement of legal certainty for criminal proceedings[891], which finds its dogmatic basis in the principle of legality (nulla poena sine lege).[892] This principle of legality is also rooted in the above-introduced Art. 7(1) ECHR and Art. 49(1) Charter of Fundamental Rights of the EU, which are both binding law according to Art. 6(1), (2) TEU. Furthermore, it is part of the common constitutional traditions shared by the EU Member States, e.g. Art. 103(2) of the German Constitution.[893] The principle of nulla poena sine lege entails two specifications: The ban for the jurisdiction to punish without legal basis and the demand to the legislator to define criminal sanctions clearly (nulla poena sine lege certa).[894] The requirement of clarity means for the part of the elements of an offense that the precise consequences and the scope of application need to be deductible from the wording or through interpretation of the text of the criminal provision.[895]

(b) The standards of clarity applicable to Art. 23 of REG N° 1/2003

The requirement of certainty is therefore applicable to the provisions of Regulation N° 1/2003. This result is independent of the legal classification of the sentencing provision in Art. 23 of regulation N° 1/2003 as criminal sanction or as pure administrative offense.[896]

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[889] Commission v French Republic. Case C-30/89. European Court Reports 1990, I-691 Ref. 23; Ireland v Commission. Case 325/85. European Court Reports 1987, 5041 Ref. 18; Kingdom of the Netherlands v Commission. Case 326/85. European Court Reports 1987, 5091 Ref. 24; Belgian State v Banque Indosuez. Case C-177/96. European Court Reports 1997, I-5659 Ref. 27; The Queen v National Farmers´ Union and others. Case C-354/95. European Court Reports 1997, I-4559 Ref. 57; Administration des douanes v Société anonyme Gondrand Frères and Société anonyme Garancini. Case 169/80. European Court Reports 1981, 1931 Ref. 17 et sqq., Commission v French Republic and United Kingdom of Great Britain and Northern Ireland. Joined Cases 92/87 and 93/87. European Court Reports 1989, 405 Ref. 22.

[890] CNTA v Commission Case 74/74. European Court Reports 1975, 533 Ref. 44.

[891] Criminal proceedings against X. Joined Cases C-74/95 and C-129/95. European Court Reports 1996, I-6609 Ref. 25.

[892] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 204.

[893] Ibid, 205. With reference to the constitutions of other Member States in reference 36. See also Criminal proceedings against X. Joined Cases C-74/95 and C-129/95. European Court Reports 1996, I-6609 Ref. 25.

[894] K.-H.W. v Germany. Case 37201/97. Reports of Judgments and Decisions 2001-II Ref. 45; Streletz, Kessler and Krenz v Germany. Cases 34044/96, 35532/97 and 44801/98. Reports of Judgments and Decisions 2001-II Ref. 50; S.W. v United Kingdom of Great Britain and Northern Ireland. Case 20166/92. A335-B Ref. 35; Tolstoy Miloslavsky v United Kingdom of Great Britain and Northern Ireland. Case 18139/91. A316-B Ref. 37.

[895] Voet van Vormizeele, *EU-Kommentar*, 3rd ed., ed. Jürgen Schwarze (Baden-Baden: Nomos Verlag, 2012), 2735 Ref. 7.

[896] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 205.

The European Court of Justice has repeatedly decided that sanctions may only be imposed where they are based on clear and unambiguous provisions.[897] Since the level of fines is in dispute with regard to legal clarity, this requirement must also be applicable to the legal consequences of the sentencing provisions.

Since the requirement of legal certainty intends to enable the addressee of a sentencing provision to foresee the impending sanction, this legal principle does necessarily **include the clarity of the legal consequences**, thus the **scope of the fine**.[898] The European Court of Justice refers to this requirement in its fundamental decision of 1996 as the "principle of legal certainty of criminal offenses *and sanctions*".[899] The jurisdiction of the European Court of Human Rights (ECtHR) established basic criteria for the necessary quality of a law in this regard: It needs to be formulated with sufficient precision, such that the persons concerned may foresee the consequences which a given action entails to a degree reasonable in the circumstances. A discretion does not per se preclude foreseeability if its scope and manner are indicated with sufficient clarity that provides protection against arbitrary interference.[900]

Eventually, the **tightened standards of clarity for criminal provisions apply to Art. 23 of Regulation N° 1/2003**. Art. 23(5) of Regulation N° 1/2003, stipulating that sanctions according to sections 1 and 2 of this article have no criminal character, is not qualified to preclude this judgment of the rules. The classification of a provision as criminal does not depend on its denomination, but solely on its actual legal character, Art. 263(4) TFEU.[901] The European Court of Justice decided in the case *Alusuisse Italia SpA v Council and Commission of the European Communities* with regard to the identical predecessor of Art. 263(4) TFEU, Art. 173(2) TEEC:[902]

> *"The second paragraph of Article 173 of the treaty makes the admissibility of proceedings […] dependent on fulfillment of the condition that the contested measure, although in the form of a regulation, in fact constitutes a decision*

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[897] Könecke v BALM. Case 117/83. European Court Reports 1984, 3291 Ref. 11; Maizena v BALM. Case 137/85. European Court Reports 1987, 4603 Ref. 15.
[898] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", EuZW Vol. 14, N° 7 (2003), 205.
[899] Criminal proceedings against X. Joined Cases C-74/95 and C-129/95. European Court Reports 1996, I-6609 Ref. 25.
[900] Margareta and Roger Andersson v Sweden. Case 12963/87. A 226-A Ref. 75; Tolstoy Miloslavsky v United Kingdom of Great Britain and Northern Ireland. Case 18139/91. A316-B Ref. 37.
[901] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 22.
[902] Alusuisse Italia SpA v Council and Commission oft he European Communities. Case 307/81. European Court Reports 1982, 3463 Ref. 7. See also Engel and others v The Netherlands. Cases 5100/71, 5101/71, 5102/71, 5354/72, 5370/72). A 22 Ref. 81 with regard to the conditions, especially the ECHR, under which the Member States are free to establish a distinction between criminal and disciplinatory law.

which is of direct and individual concern to them. The objective of that provision is in particular to prevent the Community institutions, merely by choosing the form of a regulation, from being able to exclude an application by an individual against a decision of direct and individual concern to him and thus make clear that the choice of form may not alter the nature of a measure."

Hence, if the legal character of the fines provision is of criminal nature, the tightened standards for criminal provisions apply. In the *Engel* case[903], the ECtHR established criteria to decide whether a public sanction has a criminal character in the meaning of Art. 6(1) ECHR.[904] This jurisdiction has been confirmed by the ECJ in the judgment *Bonda*.[905] In a first step, it needs to be determined whether the law containing the sanctioning provision is considered as criminal law by the legislating state.[906] With regard to Art. 23(2) of Regulation N° 1/2003, the legislator has clearly stated in the above described Art. 23(5) of Regulation N° 1/2003 that he considers the fines provisions as non-criminal law.

In case of denial of the first criterion, the classification of legal acts is conducted on the basis of the scope[907] and purpose of the sanction.[908] The scope of fines, according to Art. 23(2) of Regulation N° 1/2003 a maximum of 10 percent of last year´s total revenues[909], does already have an indicative effect.[910] For huge enterprises, fines may reach three-digit million amounts.[911] The extent of antitrust fines differs considerably from the level of fines common in cases of administrative offenses.[912] Rather, the European Commission is empowered to structural interventions in markets through the use of excessive

[903] Engel and others v The Netherlands. Cases 5100/71, 5101/71, 5102/71, 5354/72, 5370/72). A 22 Ref. 82.
[904] The Engel judgment has been confirmed recently: Dubus S.A. v France. Case 5242/04 Ref. 36. Also Menarini Diagnostics S.R.L. v Italy. Case 43509 Ref. 38.
[905] Bonda. Case C-489/10 Ref. 37.
[906] Georg-Klaus de Bronett, "Die Rechtmäßigkeit der neueren Geldbußenpraxis der EU-Kommission wegen Verstoß gegen Verfahrenspflichten nach Art. 23 Abs. 1 Verordnung Nr. 1/2003", *WuW* Vol. 62, no. 12 (2012), 1165.
[907] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 206. See also ibid.
[908] Jussila v Finland. Case 73053/01 Ref. 38.
[909] The decisive criterion for the distinction between criminal law and administrative sanctions is not the amount in an individual case, but the legal maximum. See Dubus S.A. v France. Case 5242/04 Ref. 37.
[910] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 206.
[911] Please refer to the illustration of past antitrust fines in section B.II.1.a) cc) of this chapter.
[912] See Wernhard Möschel, "Kartellbußen und Artikel 92 Grundgesetz", *WuW* Vol. 60, no. 9 (2010), 870 who refers to administrative offenses as minor offenses with mass character. Similar Stockmann, "Stellungnahme zum Zwischenbericht des Bundeskartellamtes zum Expertenkreis Kartellsanktionsrecht," *ZWeR* Vol. 13, no. 3 (2015), 197. Also Gerald Brei, "Due Process in EU antitrust proceedings - causa finita after Menarini?," ibid, no. 1, 39.

fines.[913] This huge scope and influence of fines for market manipulations suggests a classification as criminal law[914]. In the case *Menarini*, the ECtHR classified a – comparably low – 6 Million Euro fine as criminal law.[915] Hence, European Commission fines proceedings according to Art. 23(2) of Regulation N° 1/2003 are criminal charges in the meaning of Art. 6(1) ECHR.[916]

Also, the purpose and requirements of the fines provisions suggest their classification as criminal law. Legal provisions that do not aim at the compensation of a concrete damage, but rather pursue a deterrent and punishing purpose, belong to the field of criminal law.[917] The European Commission has repeatedly emphasized the meaning of antitrust fines for deterrence.[918] Recital 4 of the guidelines on fining reads: [919]

> *"[…] Fines should have a sufficiently deterrent effect, not only in order to sanction the undertakings concerned (specific deterrence) but also in order to deter other undertakings from engaging in, or continuing, behavior that is contrary to Articles 81 and 82 of the EC Treaty (general deterrence)."*

Since 1970, also the European jurisdiction has recognized the repressive function of fines according to Art. 23(2) of Regulation N° 1/2003 and its preceding provisions.[920] Even though the ECJ has never confirmed the criminal nature of fines in competition cases so far, it ensures the respect of procedural guarantees applying to criminal proceedings, in particular Articles 47 to 50 of the Charter of Fundamental Rights of the EU.[921]

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[913] Wernhard Möschel, "Geldbußen im europäischen Kartellrecht", *Der Betrieb* Vol. 63, no. 43 (2010), 2377. See also with specific reference to Germany Wernhard Möschel, "Kartellbußen und Artikel 92 Grundgesetz", *WuW* Vol. 60, no. 9 (2010), 870.

[914] Georg-Klaus de Bronett, "Die Rechtmäßigkeit der neueren Geldbußenpraxis der EU-Kommission wegen Verstoß gegen Verfahrenspflichten nach Art. 23 Abs. 1 Verordnung Nr. 1/2003", *WuW* Vol. 62, no. 12 (2012), 1165. See also Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 281.

[915] Menarini Diagnostics S.R.L. v Italy. Case 43509 Ref. 41 et sqq.

[916] Georg-Klaus de Bronett, "Die Rechtmäßigkeit der neueren Geldbußenpraxis der EU-Kommission wegen Verstoß gegen Verfahrenspflichten nach Art. 23 Abs. 1 Verordnung Nr. 1/2003", *WuW* Vol. 62, no. 12 (2012), 1166. Refer also to Brei, "Due Process in EU antitrust proceedings - causa finita after Menarini?," *ZWeR* Vol. 13, no. 1 (2015), 36.

[917] Georg-Klaus de Bronett, "Die Rechtmäßigkeit der neueren Geldbußenpraxis der EU-Kommission wegen Verstoß gegen Verfahrenspflichten nach Art. 23 Abs. 1 Verordnung Nr. 1/2003", *WuW* Vol. 62, no. 12 (2012), 1165. With reference to Jussila v Finland. Case 73053/01 Ref. 38.

[918] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 206.

[919] European Commission, Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation No 1/2003. Official Journal from September 1, 2006. N° C 210, 2.

[920] Settled case-law since ACF Chemiefarma NV v Commission. Case 41/69. European Court Reports 1970, 661 Ref. 172, 176.

[921] Koen Lenaerts, "Due process in competition cases", *NZKart* Vol. 1, no. 5 (2013), 175-176.

Another indicative effect pointing to a classification as criminal law results from the requirements of Art. 23(2) of Regulation N° 1/2003. Fining requires an antitrust infringement committed with intent or negligently. These are typical categories of criminal law.[922]

In summary, the examination of the sanctioning provisions leaves room for only one conclusion: The procedural guarantees for criminal proceedings, foremost the requirement of legal clarity, apply to Art. 23(2) of Regulation N° 1/2003.[923] In its latest verdict, the CFI does not seem to question the applicability of these standards.[924]

(c) The necessary level of legal certainty

From the above listed requirements for sanctioning provisions, the necessary level of legal certainty may be deducted. It depends mainly on the intensity of the government intervention.[925] According to the ECJ, "the requirement of legal clarity is indeed imperative in a sector in which any uncertainty may well lead to incidents and the application of particularly serious sanctions".[926] Hence, the European Council needs to define precisely contents, purpose and scope of an impending sanction in a way such that the prerequisites, type and amount may be foreseen by potential parties concerned from the regulation itself. Furthermore, a maximum amount for sanctions needs to be defined. The fines may not achieve the character of a criminal law sanction through excessive amounts.[927] Notably in the case of antitrust fines, the precise definition of the sanctions is necessary to balance the concentrated power of the European Commission in antitrust and competition law.[928] Its task to act as investigating authority, prosecutor and judge in one person carries risk for the principle of fair trial.[929] Therefore, the European Commission needs to be provided with clear and nonambiguous guidelines in Regulation N° 1/2003 on how to execute its

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[922] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 206.
[923] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 22.
[924] Ecka Granulate GmbH & Co. KG v Commission. Case T-400/09 Ref. 25.
[925] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 206.
[926] Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland. Case 32/79. European Court Reports 1980, 2403 Ref. 46.
[927] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 206.
[928] Koen Lenaerts, "Due process in competition cases", NZKart Vol. 1, no. 5 (2013), 175.
[929] See e.g. Wernhard Möschel, "Geldbußen im europäischen Kartellrecht", *Der Betrieb* Vol. 63, no. 43, 2377. The author even comes to the conclusion that the cumulation of tasks for the Commission violates the principle of separation of powers and the procedural guarantees of Art. 6 ECHR. Refer also to Brei, "Due Process in EU antitrust proceedings - causa finita after Menarini?," *ZWeR* Vol. 13, no. 1 (2015), 40, 44.

power. Codified rules for the determination of the sentence are a necessary condition for the implementation of the requirement of legal certainty.[930]

(d) Incompatibility of the current legal basis for antitrust fines with the necessary level of legal certainty

A comparative examination of Regulation N° 1/2003 with the necessary level of legal certainty derived in the preceding sections yields the incompatibility of the current legal basis of antitrust fines. Three main points of criticism lead to this conclusion:[931]

1. The lack of legal certainty with regard to whether a fine is imposed,

2. the lack of an absolute maximum fine, and

3. the lack of precise criteria for the determination of an individual fine.

At first, Art. 23(2) of Regulation N° 1/2003 does not contain a binding requirement for the European Commission to impose a fine. The text of the norm says that it "may" impose a fine, without limiting the authority´s discretion whether to sanction or not in any way. In practice, there is no judicial review with regard to the Commission´s compliance with the principle of equal treatment and proportionality.[932]

Secondly, there is no absolute maximum fine in the regulation. The yearly revenue of any firm concerned limits the fine, where 10 percent of last year´s revenue constitute the maximum of the fine.[933] In numbers, however, the fine is unlimited and does only become clear in the moment of application of the law.[934] It may be doubted whether the legisla-

[930] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 207.
[931] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 25.
[932] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 207. See also Brei, "Due Process in EU antitrust proceedings - causa finita after Menarini?," *ZWeR* Vol. 13, no. 1 (2015), 47-48.
[933] The CFI considered this limit to be in accordance with the requirement of legal certainty: Ecka Granulate GmbH & Co. KG v Commission. Case T-400/09 Ref. 28. See also earlier decisions on this question: Degussa v Commission. Case T-279/02. European Court Reports 2006, II-879 Ref. 74-76; Schunk GmbH and Schunk Kohlenstoff-Technik GmbH v Commission. Case T-69/04. European Court Reports 2008, II-2567 Ref. 35-36. Taking the opposing opinion Philipp Voet van Vormizeele, "Kartellrecht und Verfassungsrecht," *NZKart* Vol. 1, no. 10 (2013), 391.
[934] Fines may, in fact, reach from 1000 € to billions of Euros. See e.g. Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 952.

tor´s decision for an individual penalty range does fulfill the requirement of legal certainty.[935] In fact, it is not the law that determines the amount of the fine, but the authority, which carries the risk of arbitrary decisions[936] that may neither be foreseen, nor reviewed by the firms concerned.[937]

Thirdly, Art. 23(2) of Regulation N° 1/2003 lacks precise criteria for the determination of the amount of the fine. The norm contains only two criteria (Art. 23(3) of Regulation N° 1/2003) that shall guide the discretion of the Commission: **The gravity of the infringement and its duration**. Yet, particularly these two criteria are badly qualified to limit the Commission´s discretion: According to the jurisdiction, there is no coercive list of criteria, which do necessarily have to be considered for the determination of the gravity of an antitrust infringement.[938] Therefore, this criterion is not well suited for the guidance of the Commission´s discretion. In practice, the amount of a fine is determined with reference to a number of other factors that aggravate or soften the fine.[939] Hence, the Commission bases its decisions on a number of factors that are not part of the statutory authorization and can therefore not be foreseen by aggrieved parties.[940] Eventually, Ref. 37 of the guidelines contains a general allowance to depart from the method in order to ensure sufficient deterrence in an individual case. This provision takes the CFI arguments[941] with regard to a foreseeable self-limitation of the Commission through its guidelines to the absurd.[942]

In summary, the lack of a general maximum fine in combination with lacking criteria for the precise and reviewable determination of fines leads to a violation of the requirement of legal certainty through Art. 23(2) of Regulation N° 1/2003.

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[935] In its draft for the preceding Regulation N° 17/62, the DG Competition had considered a percentage maximum fine an inappropriate criterion for the determination of fines. See Volker Soyez, "Die 10%-Bußgeldobergrenze und der more economic approach", *WuW* Vol. 63, no. 2 (2013), 103.

[936] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1117.

[937] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 207.

[938] SPO and others v Commission. Case T-29/92. European Court Reports 1996, I-1611 Ref. 54; Ferriere Nord SpA v Commission. Case C-219/95 P. European Court Reports 1997, I-4411 Ref. 33; LR af 1998 A/S v Commission. Case T-23/99. European Court Reports 2002, II-1705 Ref. 236.

[939] Please refer to section B. II.1. a) aa) of this chapter, where the EC guideline´s approach to the calculation of fines is introduced.

[940] The CFI has nonetheless denied a violation of the requirement of legal certainty, pointing to the guidelines as a self-imposed limit to the Commission´s discretion. Ecka Granulate GmbH & Co. KG v Commission. Case T-400/09 Ref. 30. See also earlier decisions on this question: Degussa v Commission. Case T-279/02. European Court Reports 2006, II-879 Ref. 74-76; Schunk GmbH and Schunk Kohlenstoff-Technik GmbH v Commission. Case T-69/04. European Court Reports 2008, II-2567 Ref. 35-36.

[941] Ecka Granulate GmbH & Co. KG v Commission. Case T-400/09 Ref. 30. See also earlier decisions on this question: Degussa v Commission. Case T-279/02. European Court Reports 2006, II-879 Ref. 74-76; Schunk GmbH and Schunk Kohlenstoff-Technik GmbH v Commission. Case T-69/04. European Court Reports 2008, II-2567 Ref. 35-36.

[942] Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006", *WuW* Vol. 57, no. 5 (2007), 481.

(e) Lacking justification of the infringement of the principle of legal certainty

The lack of legal certainty is not justified by any economic considerations or compensation through judicial revision. The European Commission has repeatedly expressed its conviction that a foreseeable fine practice might not have a deterrent effect.[943] Yet, with regard to the above conducted economic analysis of antitrust fines, this view is not economically justifiable. The opposite is true: Firms need to be able to calculate the damage from the prosecution of infringements in order to compare it to the potential gains from infringements and – in case of optimally adjusted fines – refrain from the antitrust violation.[944] From a legal point of view, the requirement of legal certainty is not for the Commission´s disposal, since it is a minimum requirement under the rule of law.[945]

Furthermore, a lack of legal certainty may not be compensated through the competence of Community Courts to review Commission decisions with regard to the amount of the fine.[946] First, the requirement of legal certainty is addressed to the legislator and may not be passed on to the courts. The judges lack a sufficiently precise standard based on which they may control the exercise of the Commission´s discretion.[947] In practice, the European Courts do therefore rely on the Commission´s findings on the facts of the case, which provides the basis for the decision on a fine.[948] Judicial review is limited to compliance with procedural rules, a sufficient justification of the fine, correct findings on the facts of the case and the lack of manifest errors of appraisal or a misuse of powers.[949]

(f) Consequence: Restrictive interpretation of Art. 23(2) of REG N° 1/2003

As a consequence of the violation of the requirement of legal certainty, Art. 23(2) of Regulation N° 1/2003 is subject to **restrictive interpretation**.[950] The norm itself concedes almost unlimited discretion to the Commission. The resulting lack of clarity and

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[943] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 208-210.
[944] Please refer to the economic analysis in section B. of this chapter.
[945] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 208.
[946] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 26.
[947] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 208.
[948] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 27 and 57.
[949] Koen Lenaerts, "Due process in competition cases", *NZKart* Vol. 1, no. 5 (2013), 176-177. See also the European jurisdiction John Deere Ltd v Commission. Case C-7/95. European Court Reports 1998, I-3111 Ref. 34. See also Bolloré SA v Commission. Joined Cases T-109/02, T-118/02, T-122/02, T-125/02, T-126/02, T-128/02, T-129/02, T-132/02 and T-136/02. European Court Reports 2007, II-947 Ref. 664.
[950] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 80.

foreseeability does however not lead to nullity of the provision. According to the case law of the European courts, secondary EU law has rather to be interpreted in conformance with primary law.[951] Hence, also a vague enabling provision may be enforceable if it is interpreted in the light of the requirement of legal certainty.[952] For the case of fines for manipulative practices in the energy market, this means that **de lege lata only fines below the threshold of criminal law are in accordance with EU law**.[953]

(3) The current EC guideline´s criteria violate the principle of the reservation of the law

Also, the basic principle of the reservation of the law is violated by the EU Commission guidelines on antitrust fines.[954] According to this principle, any administrative action requires an enabling provision in primary or secondary Community law, Art. 2 TEU.[955] With regard to the guidelines on fining, two problems arise:

1. First, it may be doubted whether Art. 23 of Regulation N° 1/2003 contains an enabling provision that includes the right for the Commission to establish abstract, quasi-legal rules for the calculation of fines (a).

2. Second, the compliance of the Commission´s guidelines with a potential enabling provision in Art. 23 of Regulation N° 1/2003 appears doubtful (b).[956]

(a) The legal nature of the guidances on fining

(aa) In a first step, the **legal nature of the guidances on fining** needs to be determined. Both, Art. 288 TFEU and Art. 290 TFEU might apply to the Commission guidances,

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[951] Matthias Ruffert, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 288 AEUV Ref. 9.
[952] Ulrich Soltész, Christian Steinle and Holger Bielesz, "Rekordgeldbußen versus Bestimmtheitsgebot, Die Kartellverordnung auf dem Prüfstein höherrangigen Gemeinschaftsrechts", *EuZW* Vol. 14, no. 7 (2003), 210.
[953] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 80.
[954] Deviating Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 25 Ref. 99.
[955] Christian Calliess, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 2 EUV Ref. 25.
[956] With regard to the legal situation before the introduction of Regulation N° 1/2003 see Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 947.

yet only Art. 290 TFEU requires an enabling provision for the Commission to adopt its guidelines.[957]

Art. 288 TFEU, formerly Art. 249 TEU, contains rules for all legal acts of the EU. This includes European administrative provisions, such as Commission Communications, Commission´s Guidelines and other legally non-binding soft law.[958] These administrative provisions are supposed to ensure uniform administrative decisions, improve information and transparency and thereby contribute to legal certainty. A legal effect exceeding the protection of legitimate expectations is not envisioned by administrative provisions.[959] The European Commission and jurisdiction consider Commission´s Guidelines like the guidelines on fining antitrust violations to be in the scope of application of Art. 288 TFEU. Therefore, the need for an authorization of the Commission is negated and the reservation of the law not violated.

Other than Art. 288 TFEU, **Art. 290 TFEU** requires an authorization of the European Commission to adopt non-legislative acts of general application to supplement or amend certain non-essential elements of the legislative act.[960] The applicability of Art. 290 TFEU to the guidelines on fining results from Art. 103, 289(3) TFEU. According to Art. 103 TFEU, the European Council is the designated legislator for antitrust and the realization of the principles laid down in Art. 101 and 102 TFEU.[961] In particular, the Council decides about the introduction of fines and penalty payments, Art. 103(2) lit. a TFEU. Since legislation under Art. 103 TFEU refers to substantive questions in the field of antitrust, these legislative acts need to be adopted by legislative procedure (e.g. be a regulation or directive) according to Art. 289(3) TFEU.[962] For such acts, Art. 290 TFEU applies with regard to the delegation of power to the Commission.[963] Since Art. 23 of Regulation N° 1/2003, which is the legal foundation of antitrust sanctioning, is based upon Art. 103(2) TFEU, **the Commission needs to be authorized to the determination of quasi-legislative legal acts according to the requirements of Art. 290 TFEU.[964]**

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[957] Matthias Ruffert, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 290 AEUV Ref. 8.
[958] Ibid, Art. 288 AEUV Ref. 102.
[959] Ibid, Art. 288 AEUV Ref. 103.
[960] Ibid, Art. 290 AEUV Ref. 2.
[961] Ingo Brinker, *EU-Kommentar*, 3rd ed., ed. Jürgen Schwarze (Baden-Baden: Nomos Verlag, 2012), 1204 Ref. 1.
[962] Matthias Ruffert, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 289 AEUV Ref. 8.
[963] Johann Schoo, *EU-Kommentar*, 3rd ed., ed. Jürgen Schwarze (Baden-Baden: Nomos Verlag, 2012), 2336 Ref. 11.
[964] Wolfgang Weiß, "Das Leitlinien(un)wesen der Kommission verletzt den Vertrag von Lissabon", *EWS* Vol. 17, no. 7 (2010), 260.

(bb) In a second step, the **lacking compliance of the guidelines with the legal mandate of the EC** in Art. 23(2) and (3) of Regulation N° 1/2003 will be proved. Art. 23(2) of Regulation N° 1/2003 confers on the Commission a discretion whether and to which extent to fine. The third paragraph of the norm concretizes, naming the gravity and the duration of the infringement as a benchmark for the determination of fines.[965] Settled case-law of the ECJ further established that the Commission needs to consider all individual circumstances, especially the total turnover and the specific turnover from the sale of the product concerned by the antitrust infringement.[966] With the introduction of the guidelines, however, the Commission established abstract rules for fining instead of exercising its discretion in every individual case. These general criteria have the typical characteristics of a quasi-legal act of secondary Community law.[967] As a result, the Commission needs to be authorized by the Council to adopt these rules (aa).

The enabling provision needs to lay down specifically objectives, content, scope and duration of the delegation of power to the Commission and may not refer to essential elements of an area, which are, according to the materiality principle, reserved for the legislative act itself, Art. 290 (1) second and third sentence TFEU.[968]

With regard to the imprecise criteria for fining contained in Art. 23 of Regulation N° 1/2003, it may already be doubted whether the Council actually complied with its obligation to decide about all essential elements of the legislative act on its own, Art. 290(1) TFEU.[969] Since Art. 103(2) lit. a TFEU explicitly empowers the European Council to introduce sanctioning provisions, this decision must be considered essential. Hence, the European Council needs to specify the criteria laid down in Art. 23 of Regulation N° 1/2003, resulting from its obligation to decide about essential elements of the legal act on its own, Art. 290(1) TFEU.

Furthermore, even if Art. 23 of Regulation N° 1/2003 is not considered to require specification, the basic legal act (Regulation N° 1/2003) needs to define objectives, content, scope and duration of the delegation of power.[970] Yet, Art. 33 of Regulation N° 1/2003,

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[965] Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 948.
[966] S.A. Musique Diffusion Francaise (Pioneer) v Commission. Joined Cases 100/80 – 103/80. European Court Reports 1983, 1825 Ref. 121.
[967] Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 948.
[968] Matthias Ruffert, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 290 AEUV Ref. 11-15.
[969] Wolfgang Weiß, "Das Leitlinien(un)wesen der Kommission verletzt den Vertrag von Lissabon", *EWS* Vol. 17, no. 7 (2010), 260. See also Helmut Lecheler, "Ungereimtheiten bei den Handlungsformen des Gemeinschaftsrechts – dargestellt anhand der Einordnung von »Leitlinien«, *DVBl* Vol. 123, no. 14 (2008), 876-877.
[970] Wolfgang Weiß, "Das Leitlinien(un)wesen der Kommission verletzt den Vertrag von Lissabon", *EWS* Vol. 17, no. 7 (2010), 260.

which concerns the adoption of implementing rules, does not refer to sanctioning provisions.

(cc) Therefore, **the Commission is acting without effective enabling provision** according to Art. 290 TFEU when it adopts guidelines on fining.[971] The guidelines on fining **violate the principle of the reservation of the law** and are therefore unlawful.

(b) The compliance of the guidelines with the enabling provision

Assuming that Art. 23 of Regulation N° 1/2003 is based upon an effective enabling provision, the compliance of the Commission´s guidelines with this provision may be doubted. In its guidelines, the Commission does no more refer to the turnover of the undertakings that Art. 23(2) of Regulation N° 1/2003 lays down related to the maximum fine, but rather defines a number of aggravating and mitigating criteria that are supposed to adapt the amount of the fine to the level of deterrence intended by the Commission. It appears doubtful whether the Commission´s discretion includes this interpretation.[972]

The current EC guidelines aim at a restructuring of markets, particularly the energy market, through prohibitive fines: The forced sale of production capacity in the German power market, as well as the separation of the highest voltage grids from the huge power producers are prominent examples.[973] This is however not included in the Commission´s mandate for fining violations of EU competition law and its discretion with regard to the sanction.

Some of the criteria established by the Commission do violate basic procedural rights. In reference 28, second indent, the Commission names the "refusal to cooperate with or obstruction of the Commission in carrying out its investigations" as an aggravating circumstance. Yet, the right to a fair hearing recognized in Art. 6(1) ECHR and Art. 47 Charter of Fundamental Rights of the European Union includes the protection from undue force and self-incrimination.[974] The de-facto obligation to cooperate with the European Commission in its examination even beyond the punishable cases laid down in Art. 23(1) of Regulation N° 1/2003 violates the procedural rights of the firms accused of a violation of

[971] Ibid.
[972] With regard to the 1998 guidelines, refer to Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 948.
[973] Wernhard Möschel, "Geldbußen im europäischen Kartellrecht", *Der Betrieb* Vol. 63, no. 43 (2010), 2377.
[974] Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 35.

competition law. The EC, in applying this provision, does no more sanction antitrust infringements, but non-cooperation of suspects.[975] This violation of the suspects´ procedural rights may therefore not be a permitted interpretation of the legally binding criterion of gravity.

(4) The current EC guideline´s criteria violate the principles of proportionality and equal treatment

European law, with reference to the rule of law[976], does also know **the principle of proportionality of penalties**, Art. 49(3) Charter of Fundamental Rights of the European Union.[977] It reads:

> *"The severity of penalties must not be disproportionate to the criminal offence."*

(a) The principle of proportionality of penalties

This principle relates to both, the penalty laid down in the law and its application in individual cases. It guarantees that penalty and scale of punishment take into account the purpose of the punishment and are necessary for and proportionate to the gravity of the infringement.[978] The ECJ affirmed this principle, stating that fines imposed by the EC for infringements of competition law "have as their object to punish illegal conduct as well as to prevent it being repeated".[979] Especially with regard to the perception of punishments by the antitrust violators, a just, which is a proportionate punishment, may not be reached by ever-increasing fines.[980] Rather, excessive penalties unnecessary to achieve the goals of punishment must be avoided.[981] Hence, also from the point of view of proportionality,

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[975] Volker Soyez, "Die Bußgeldleitlinien der Kommission – mehr Fragen als Antworten", *EuZW* Vol. 18, no. 19 (2007), 599.
[976] Bernhard Wegener, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 19 EUV Ref. 38.
[977] Pietro Manzini, "The Proportionality of Antitrust Fines," *EuZW* Vol. 26, no. 13 (2015), 496. Refer also to Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 20.
[978] Hermann-Josef Blanke, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 49 GRCh Ref. 6.
[979] ACF Chemiefarma NV v Commission. Case 41/69. European Court Reports 1970, 661 Ref. 173.
[980] Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 21.
[981] Manzini, "The Proportionality of Antitrust Fines," *EuZW* Vol. 26, no. 13 (2015), 499.

the current guidelines are no permitted interpretation of the criteria laid down in Art. 23(3) of Regulation N° 1/2003.[982]

(b) The principle of equal treatment

Furthermore, the application of the guidelines on fining violates the principle of equal treatment. European law recognizes this basic principle as a product of fundamental rights´ influence on administrative procedures.[983] The Commission´s guidelines do, however, cause an unequal treatment of firms involved in competition law infringements. A differentiation between firms according to size, economic strength and market position is not provided for. Ref. 30 of the guidelines allows an increase of a fine exceeding the turnover in the cartelized division in cases where besides the sale of the cartelized product substantial other turnover has been generated.[984] This provision leads to an unequal treatment of small and medium sized enterprises and group companies even in cases where participation, intensity and duration of the infringement are the same.[985] A violation of the principle of equal treatment may also not be considered a valid interpretation of binding EU law by the Commission.

(5) Summary of the legal analysis and result

The above legal analysis has shown the incompatibility of the EC guidelines on fining for antitrust infringements with primary EU law.[986] This finding results in a **mandatory interpretation of the EC guidelines in conformance with primary Community law**.[987] Legally binding criteria for the determination of fines for antitrust infringements

[982] This conclusion is also reached by Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 290.
[983] Eberhard Grabitz, "Europäisches Verwaltungsrecht – Gemeinschaftliche Grundsätze des Verwaltungsverfahrens", *NJW* Vol. 42, no. 29 (1989), 1779.
[984] Volker Soyez, "Die Bußgeldleitlinien der Kommission – mehr Fragen als Antworten", *EuZW* Vol. 18, no. 19 (2007), 596.
[985] Hans-Joachim Hellmann, "Vereinbarkeit der Leitlinien der Kommission zur Berechnung von Bußgeldern mit höherrangigem Gemeinschaftsrecht", *WuW* Vol. 52, no. 10 (2002), 950.
[986] Deviating opinion in Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 17 Ref. 63.
[987] Matthias Ruffert, EUV/AEUV. *Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, 4th ed., ed. Christian Calliess and Matthias Ruffert (München: C.H. Beck, 2011), Art. 288 AEUV Ref. 9. See also Bernd Biervert, *EU-Kommentar*, 3rd ed., ed. Jürgen Schwarze (Baden-Baden: Nomos Verlag, 2012), 2321 Ref. 11.

are therefore solely the gravity and the duration of the infringement, Art. 23(3) of Regulation N° 1/2003.[988] The subsequent section will elaborate a valid interpretation of both criteria that ensures efficient deterrence of market manipulations.

(6) Determination of government fines D_G in accordance with Art. 23(3) of Regulation N° 1/2003 and primary Community law

The CFI and ECJ jurisdiction dating from the time before the introduction of the EC guidelines contains valuable hints on the interpretation of the fining provision in Art. 23(2) and (3) of Regulation N° 1/2003, then Art. 15(2) of Regulation N° 17/62. The second sentence of this norm defined as criteria for the determination of fines the gravity and the duration of antitrust infringements, just as Art. 23(3) of Regulation N° 1/2003 does today.

(a) The gravity of the infringement

With regard to the gravity of the infringement, the European jurisprudence focused on the value of the goods that were the object of the competition law violation, as well as the economic power of the firm in order to determine its influence on the market concerned.[989] In the seminal case of *Musique Diffusion v Commission*, the ECJ notes[990]:

> *"It follows that, on the one hand, it is permissible, for the purpose of fixing the fine, to have regard to both to the total turnover of the undertaking, which gives an indication, albeit approximate and imperfect, of the size of the undertaking and of its economic power, and to the proportion of that turnover accounted for by the goods in respect of which the infringement was committed, which gives an indication of the scale of the infringement. On the other hand, it follows that it is important not to confer on one or the other of those figures an importance disproportionate in relation to the other factors and, consequently, that the fixing of an appropriate fine cannot be the result of a simple calculation based on the total turnover. That is particularly the case where the goods concerned account for only a small part of that figure. It is appropriate for the court to bear in mind those considerations in its assessment, by the*

[988] Volker Soyez, "Die Bußgeldleitlinien der Kommission – mehr Fragen als Antworten", *EuZW* Vol. 18, no. 19 (2007), 599.
[989] S.A. Musique Diffusion Francaise (Pioneer) v Commission. Joined Cases 100/80 – 103/80. European Court Reports 1983, 1825 Ref. 120.
[990] S.A. Musique Diffusion Francaise (Pioneer) v Commission. Joined Cases 100/80 – 103/80. European Court Reports 1983, 1825 Ref. 121.

virtue of its powers of unlimited jurisdiction, of the gravity of the infringements in question."

Hence, the ECJ bases its considerations with regard to the gravity of the infringement on the **turnover obtained through the antitrust infringement**. This approach comes close to the findings of the above-conducted economic analysis[991], stating that the optimal deterrence is achieved if the following equation is satisfied:

$$\Delta\Pi = p_P(e) \cdot (D_G + \bar{D}_P).^{992}$$

In fixing the basic amount of a fine, the change in profit achieved from the antitrust infringement should be the main determinant of the considerations. This interpretation of gravity of the infringement satisfies the purpose of the sanctioning provision without extending the scope of Art. 23(3) of Regulation N° 1/2003.[993] Thus, also from a legal point of view, the ECJ approach is in conformance with European law. The reference to total and violation-specific turnover of the firm is in accordance with the principle of legal certainty and does not violate the infringer´s rights guaranteed by primary Community law. This valid interpretation of the criterion of gravity must therefore guide decisions on fining under EU law to ensure an efficient and lawful deterrence of manipulative market behavior.[994]

(b) The duration of the infringement

Even though less controversial, there shall still be some remarks on the interpretation of the criterion of duration of the infringement. The EC guidelines account for the duration in N° 24. The turnover calculated according to numbers 20 to 23 will be multiplied with the number of years that the firm was involved in the infringement. This interpretation of the criterion is clear and transparent. Also, the Commission´s application of the criterion satisfies the requirements of primary EU law.

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991 See section II.2. of this chapter.

992 See section B. of this chapter.

993 See also Jürgen Schwarze, Rainer Bechtold and Wolfgang Bosch, *Deficiencies in European Community Competition Law. Critical analysis of current practice and proposals for change*. (Stuttgart: GleissLutz, 2008), 80 (N° 5) who supports a similar approach de lege lata.

994 However, the introduction of detailled criteria for the determination of the amount of the fine in Regulation N° 1/2003 that satisfy the requirements of legal certainty would highly improve the clarity for firms concerned and should be pursued by the European Council. See ibid, 81.

(7) Conclusion: EU law requires a reduction of government fines D_G

The applicable European law requires a lowering of fines for manipulations below the threshold of criminal law, as well as an interpretation of the criteria for the determination of the amount of the fine that is in conformance with primary Community law. Every further extension of deterrence needs to be governed through alternative punishments (D_J) and, even more important de lege lata, through an increase of the probability of detection and punishment p_p.

bb) Violations of higher-ranking German Law

The German FCO developed, based on the European example[995], guidelines for the determination of fines in antitrust administrative proceedings that have been introduced above.[996] Just as for the European case, the economic analysis found inefficiently high fines while at the same time the probability of punishment p_p failed to meet the efficient level.[997] From a legal point of view, these results are confirmed. The following section will show that Sec. 81(4) GWB on which the FCO guidelines are based violates the principle of legal certainty[998] and needs to be interpreted restrictively within the limits of the applicable law.

(1) Guiding principles of German constitutional law

German secondary law needs to be in accordance with the rule of law referred to in Art. 20(3) of the German constitution (GG). This includes the guarantee of legal certainty for all norms of national law. It requires certainty in three ways: The formulation of predictable rules that enable the addressee to direct his behavior accordingly, clear standards for the administration and a basis for appropriate judicial review.[999] The appropriate level of legal certainty depends on several factors, mainly the intensity of the governmental intervention resulting from the rule and the material character of the subject matter. Basically, more intense interventions require a higher degree of clarity of legal norms.[1000] For the case of criminal provisions, Art. 103(2) GG (nullum crimen, nulla poena sine lege)

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995 Andreas Mundt, "Die Bußgeldleitlinien des Bundeskartellamtes", *WuW* Vol. 57, no. 5 (2007), 458.
996 See section II.1. a) bb) of this chapter.
997 See section II.1. a) bb) of this chapter.
998 Similar Vormizeele, "Kartellrecht und Verfassungsrecht," *NZKart* Vol. 1, no. 10 (2013), 387.
999 Bernd Grzeszick, *Grundgesetz-Kommentar*, 67th ed., ed. Theodor Maunz and Günter Dürig (München: C.H. Beck, 2012), Art. 20 GG Ref. 58.
1000 Ibid, Art. 20 GG Ref. 59.

specifies the requirements of legal certainty.[1001] According to the German Federal Constitutional Court (Bundesverfassungsgericht, BVerfG), this guarantee does not only apply to criminal law, but also to administrative offenses such as Sec. 81 GWB.[1002] It extends to both, the requirements of Sec. 81(4) GWB and its legal consequences.[1003]

The BVerfG has elaborated the necessary degree of legal certainty for criminal sanctions in its famous decision *Vermögensstrafe*.[1004] In its effort to balance the principles of sentencing adequate to fault committed and legal certainty, the court established the priority of the principle of legal certainty over adequate sentencing with increasing intensity of the intervention.[1005] The legislator meets the requirements of legal certainty, if

> *"by the choice of the threat of punishment the judge as well as the individual concerned are oriented in a way such that his [the legislator´s] evaluation of the offense becomes clear, the individual involved may assess the scope of the threatening punishment and the judge is provided with tools to find a response adequate to the fault committed."*[1006]

In cases where intense sanctions are imposed, the legislator needs to define a minimum and a maximum penalty in order to provide orientation for the judge´s consideration of the wrong and the degree of fault.[1007] An unlimited range for sanctions bears the danger of erratic, thus not sufficiently predictable punishment.[1008] Furthermore, the BVerfG derived from the principle of legal certainty a legislative obligation to name criteria suited to guide the judicial decision.[1009] It should be ensured that the punishment

> *"is not subject to unlimited judicial discretion but will be determined within a structured framework"*[1010].

[1001] Eberhard Schmid-Aßmann, *Grundgesetz-Kommentar*, 67th ed., ed. Theodor Maunz and Günter Dürig (München: C.H. Beck, 2012), Art. 103 GG Ref. 164.

[1002] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1108. With reference to Zweckentfremdung von Wohnraum. Case 2 BvL 5/74. BVerfGE 38, 348, 371 et sqq. Also Anti-Atomplakette. Case 1 BvR 1053/82. BVerfGE 71, 108, 114. See also joined cases 2 BvR 1491/87 and 2 BvR 1492/87. BVerfGE 81, 132, 135. Also Versammlungsauflösung. Joined cases 1 BvR 88/91 and 1 BvR 576/91. BVerfGE 87, 399, 411.

[1003] Verfolgungsverjährung. Cases 2 BvL 15/68 and 2 BvL 23/68. BVerfGE 25, 269, 285 et sqq.

[1004] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135.

[1005] Ibid, 155 et sqq. See also the earlier decision Verfolgungsverjährung. Cases 2 BvL 15/68 and 2 BvL 23/68. BVerfGE 25, 269, 285 et sqq.

[1006] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 155. The translation from German into English has been done by the author.

[1007] Florian Haus, "Verfassungsprinzipien im Kartellbußgeldrecht – ein Auslaufmodell? Zu den anwendbaren Maßstäben bei der Bemessung umsatzbezogener Geldbußen nach § 81 Abs. 4 GWB", *NZKart* Vol. 1, no. 5 (2013), 184.

[1008] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 156.

[1009] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1109.

[1010] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 156 et sqq.

In the case *Vermögensstrafe*, the law did not contain a fixed maximum fine but rather a flexible penalty range, which was only concretized through the facts of the individual case. The BVerfG raised concerns with regard to the constitutionality of the fines provision, pointing out the lack of guidance on the legislator´s evaluation of the infringement for potential addressees.[1011]

(2) Fines above the threshold of criminal law violate the principle of legal certainty

The above-described BVerfG criteria for the conformity of monetary fines provisions with the principle of legal certainty will be used to show the violation of constitutional law through Sec. 81(4) second sentence GWB.[1012]

(a) The intensity of the intervention in basic rights

In a first step, the **intensity** of the intervention in basic rights from the fines provision will be determined. The obligation to pay a fine may not be judged on the basis of Art. 14 GG, which does not protect purely asset-related legal interests.[1013] The relevant constitutional norm for the review of Sec. 81(4) second sentence GWB is therefore the general freedom of action guaranteed in Art. 2(1) GG. Without any doubt, the fines determined according to Sec. 81(4) second sentence GWB constitute an intense intervention in Art. 2(1) GG.[1014] Even the prohibition of excessive measures codified in Sec. 17(3) OWiG, which prevents fines that may endanger a firm´s existence, does not contradict the application of the strict requirements for intense interventions. Corporate assets form the basis for any firm´s existence in competitive markets and are therefore highly protected by the law.[1015]

[1011] Ibid, 163 et sqq.

[1012] Hans Achenbach, "Grauzement, Bewertungseinheit und Bußgeldobergrenze", *WuW* Vol. 63, no. 7-8 (2013), 698.

[1013] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1110. With reference to Investitionshilfe. Cases 1 BvR 459/52, 1 BvR 484/52, 1 BvR 548/52, 1 BvR 555/52, 1 BvR 623/52, 1 BvR 651/52, 1 BvR 748/52, 1 BvR 783/52, 1 BvR 801/52, 1 BvR 5/53, 1 BvR 9/53, 1 BvR 96/53, 1 BvR 114/54. BVerfGE 4, 7, 17.

[1014] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1111.

[1015] Ibid.

(b) Violation of the principle of legal certainty (Art. 103(2) GG)

The lack of a fixed maximum fine in Sec. 81(4) second sentence GWB violates the principle of legal certainty, Art. 103(2) GG.[1016] Just as in the case *Vermögensstrafe* decided by the BVerfG, Sec. 81(4) second sentence lacks a fixed maximum fine. Instead, a penalty range reaching from five to one billion Euro is codified in the GWB.[1017] Other than *Weitbrecht and Mühle* find, Sec. 81(4) first sentence GWB does not serve as an orientation for the wrongful character of antitrust infringements.[1018] The first sentence of Sec. 81(4) GWB refers to fines for addressees that are not companies and defines a maximum fine of one million Euro. Yet, the second sentence of the provision does refer to the first sentence only in order to extend the sentencing range for companies. An orientation with regard to the maximum fine may not be found in the provision.[1019] Incidentally, it would be hard to explain how the 1 Million maximum in the first sentence of Sec. 81(4) behaves to the wide scope of fines imposed according to the second sentence with regard to the wrongful character of the infringements. In practice: Which proportion exists between sentence one and two? Therefore, the second sentence of Sec. 81(4) may not be considered lex specialis to its first sentence.[1020]

As a consequence, it remains unclear to potential addressees which wrongful character the legislator assigns to antitrust infringements sanctioned by the fines provision – especially since it applies to all kinds of antitrust infringements with their different degrees of illegality.[1021] Furthermore, the yearly turnover is not an appropriate criterion for the determination of the fine, because it does not refer to the economic performance of a firm, but is rather a mirror for its sales.[1022] A management of the financial burden imposed with the fine is therefore not to be expected.[1023] Therefore, both the differentiation between

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[1016] Also Hans Achenbach, "Die Kappungsgrenze und die Folgen - Zweifelsfragen des § 81 Abs. 4 GWB," *ZWeR* Vol. 7, no. 1 (2009), 24. Dissenting opinion e.g. Thomas Ackermann, "Kartellgeldbußen als Instrument der Wirtschaftsaufsicht," ibid Vol. 10, no. 1 (2012), 13.

[1017] Rainer Bechtold and Martin Buntscheck, "Die 7. GWB-Novelle und die Entwicklung des deutschen Kartellrechts 2003 bis 2005", *NJW* Vol. 58, no. 41 (2005), 2969. See also Martin Buntscheck, "Der „verunglückte" Abschied von der Mehrerlösgeldbuße für schwere Kartellverstöße. Kritische Anmerkungen zu § 81 Abs. 4 Satz 2 GWB", in: *Recht und Wettbewerb.* Festschrift für Rainer Bechtold zum 65. Geburtstag, ed. Ingo Brinker, Dieter H. Scheuing, and Kurt Stockmann (München: Verlag C.H.Beck, 2006), 91.

[1018] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1111. The dissenting opinion of Achenbach, "Die Kappungsgrenze und die Folgen - Zweifelsfragen des § 81 Abs. 4 GWB," *ZWeR* Vol. 7, no. 1 (2009), 20.

[1019] Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1003. The author does even argue that the lacking demarcation between the first and second sentence of Sec. 81(4) GWB does add to the violation of the principle of legal certainty. Refer also to ibid, 5-6.

[1020] However, this is being held by Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1111.

[1021] Hauke Brettel and Stefan Thomas, "Unternehmensbußgeld, Bestimmtheitsgrundsatz und Schuldprinzip im novellierten deutschen Kartellrecht," *ZWeR* Vol. 7, no. 1 (2009), 44.

[1022] Also Thomas Ackermann, "Kartellgeldbußen als Instrument der Wirtschaftsaufsicht," ibid Vol. 10, no. 1 (2012), 12.

[1023] Hauke Brettel and Stefan Thomas, "Unternehmensbußgeld, Bestimmtheitsgrundsatz und Schuldprinzip im novellierten deutschen Kartellrecht," ibid Vol. 7, no. 1 (2009), 47.

different types of offences and the reference for the determination of the fine violate constitutional law: The subsumption of Sec. 81(4) second sentence GWB under the above-described legal standards for sentencing provisions does therefore **not fulfill the requirements formulated by the BVerfG in its *Vermögensstrafe* jurisdiction**. A sufficient orientation for firms operating under the existing law is therefore not assured.

Also, the existing FCO guidelines on fining do not suffice as constitutional orientation for firms subject to antitrust proceedings: From a formal point of view, the guidelines may only be legally binding towards the FCO – but not towards the courts. From a material point of view, the guidelines do not contribute to the clarification of the deficit in legal certainty: Neither do they contain a differentiation between different antitrust infringements, nor is the determination of a fine a sufficient orientation for firms.[1024]

The Federal Court of Justice in its Grauzementkartell verdict has recently rejected this view.[1025] The BGH considered the flexible scope of punishment to be consistent with the requirement of legal certainty established in Art. 103(2) GG by way of an interpretation of the norm in conformity with the constitution.[1026] In order to establish conformity, the judges interpreted the 10 percent threshold as maximum fine, as opposed to the interpretation under European law[1027] and former practice of the German guidelines on fining from 2006 which treat the threshold as a cap only for the final amount determined according to the guidelines.[1028]

(c) The German Federal Court of Justice decision "Grauzementkartell"

Yet, the interpretation of the German Federal Court of Justice cannot be considered an allowed interpretation of the law.[1029] Any interpretation in conformity with constitutional law is limited by the wording and in cases where it would conflict with the identifiable will

[1024] Ibid, 49-50.

[1025] Grauzementkartell. Case KRB 20/12.

[1026] Ibid Ref. 51.

[1027] Limburgse Vinyl Maatschappij. Case C-238/99. European Court Reports 2002, I-8618, 8787 et sqq.; Dansk Rørindustri v Commission. Cases C-189/02 P, C-202/02 P, C-205/02 P, C-208/02 P, C-213/02 P. European Court Reports 2005, I-5488, 5587 et sqq. And Christoph Barth and Stefanie Budde, "Die Strafe soll nicht größer sein als die Schuld, Zum Urteil des BGH in Sachen Grauzement und den neuen Leitlinien für die Bußgeldzumessung", *NZKart* Vol. 1, no. 8 (2013), 311.

[1028] Grauzementkartell. Case KRB 20/12 Ref. 52. With reference to Gerhard Dannecker and Jörg Biermann, Wettbewerbsrecht EG/Teil 2, *Kommentar zum Europäischen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1252 Ref. 101.

[1029] Winfried Hassemer and Jens Dallmeyer, *Gesetzliche Orientierung im deutschen Recht der Kartellgeldbußen und das Grundgesetz* (Baden-Baden: Nomos Verlagsgesellschaft, 2010), 39-40. The opposite opinion is hold by e.g. Hauke Brettel and Stefan Thomas, "Unternehmensbußgeld, Bestimmtheitsgrundsatz und Schuldprinzip im novellierten deutschen Kartellrecht", *ZWeR* Vol. 8, no. 1 (2009), 34 et sqq.

of the legislator.[1030] The courts may not defy the perceptible intentions of the legislator in their interpretation of legal norms.[1031] In the case of Sec. 81(4) second sentence GWB, the legislator did explicitly aim at the creation of a cap according to the European example.[1032] This fact is recognized by the BGH in its decision *Grauzementkartell*.[1033] The court ignores though, that the interpretation in conformity with constitutional law may not override explicitly stipulated conceptional decisions of the legislator.[1034] As a consequence, a law that is insufficiently clear and transparent may not be fixed by the courts interpretation beyond the wording and purpose, but is simply unconstitutional.[1035]

(d) Violation of the BVerfG requirements on clarity and foreseeability of norms

Furthermore, this interpretation of the German Federal Court of Justice does still not fulfill the BVerfG requirements with regard to clarity and foreseeability of sanctioning provisions. As the court rightly asserts, the law needs to prescribe a penalty range that guides the judges' decisions.[1036] The determination of a minimum and maximum penalty, however, is not guaranteed by the interpretation of the 10 percent threshold as maximum sanction. The maximum penalty is, other than the court holds, not fix, because it depends on any individual firm´s turnover.[1037] This value allows for an assessment of the firm´s power and position in the market, as well as its economic capacity.[1038] The court argues that the reference to the firms´ turnover allows for appropriate sanctions and justice in each individual case.[1039] Yet, there is no natural correlation between the turnover of a firm

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[1030] Christoph Barth and Stefanie Budde, "Die Strafe soll nicht größer sein als die Schuld, Zum Urteil des BGH in Sachen Grauzement und den neuen Leitlinien für die Bußgeldzumessung", *NZKart* Vol. 1, no. 8 (2013), 312. Florian Haus, "Verfassungsprinzipien im Kartellbußgeldrecht – ein Auslaufmodell? Zu den anwendbaren Maßstäben bei der Bemessung umsatzbezogener Geldbußen nach § 81 Abs. 4 GWB", *NZKart* Vol. 1, no. 5 (2013), 185. With reference to Besoldungsrecht. Case 1 BvL 149/52 Ref. 20.

[1031] Florian Haus, "Verfassungsprinzipien im Kartellbußgeldrecht – ein Auslaufmodell? Zu den anwendbaren Maßstäben bei der Bemessung umsatzbezogener Geldbußen nach § 81 Abs. 4 GWB", *NZKart* Vol. 1, no. 5 (2013), 185.

[1032] Ibid, 185. With reference to Deutscher Bundestag, Ausschuss für Wirtschaft und Technologie. Beschlussempfehlung und Bericht zu dem Gesetzentwurf der Bundesregierung – Drucksache 16/5847 -. BT-Drucks. 16/7156, 11. See also the German Federal Court of Justice. Grauzementkartell. Case KRB 20/12 Ref. 52. However, the BGH considered the legislative goals with regard to a transfer of the European law to remain unclear. See Grauzementkartell. Case KRB 20/12 Ref. 53. Similar Achenbach, "Die Kappungsgrenze und die Folgen - Zweifelsfragen des § 81 Abs. 4 GWB," *ZWeR* Vol. 7, no. 1 (2009), 5.

[1033] Grauzementkartell. Case KRB 20/12 Ref. 68.

[1034] Florian Haus, "Verfassungsprinzipien im Kartellbußgeldrecht – ein Auslaufmodell? Zu den anwendbaren Maßstäben bei der Bemessung umsatzbezogener Geldbußen nach § 81 Abs. 4 GWB", *NZKart* Vol. 1, no. 5 (2013), 186.

[1035] Ibid, 185. With reference to Eberhard Schmid-Aßmann, *Grundgesetz-Kommentar*, 67th ed., ed. Theodor Maunz and Günter Dürig (München: C.H. Beck, 2012), Art. 103 Abs. 2 GG Ref. 225.

[1036] Grauzementkartell. Case KRB 20/12 Ref. 54.

[1037] Hans Achenbach, "Grauzement, Bewertungseinheit und Bußgeldobergrenze", *WuW* Vol. 63, no. 7-8 (2013), 698. For the differing opinion, see Grauzementkartell. Case KRB 20/12 Ref. 58.

[1038] Grauzementkartell. Case KRB 20/12 Ref. 61-62.

[1039] Ibid Ref. 61.

and the wrong done by an antitrust infringement.[1040] The correlation actually exists between the infringement and the gain to the firm from it, as the economic analysis has shown.[1041] A reference to the change in profit ΔΠ obtained by the firm from the infringing action would comply with the objective to punish appropriately much better. Also, the legal situation before the introduction of Sec. 81(4) GWB in its current form in 2005, which referred to the surplus gained by the firm from the infringement, respected this relation.[1042] Eventually, the BVerfG has stressed the priority of legal certainty over adequate sanctions in cases where intense interventions are discussed.[1043]

Incidentally, the BGH interpretation of the 10 percent threshold as a maximum fine instead of a cap does not eliminate the fact that it is a flexible scope of punishment, which has explicitly been considered a violation of the principle of legal certainty by the BVerfG.[1044] Only in the individual case may the addressee assess the scope of the punishment. Yet, according to the standards established by the highest constitutional court in Germany, foreseeability in abstract cases is required for sanctioning provisions in order to be in conformity with the constitutional principle of legal certainty.[1045]

(e) Violation of the principle of legal certainty by Sec. 81(4) second sentence GWB

As a consequence, Sec. 81(4) second sentence GWB violates the principle of legal certainty; in its current form, it is unconstitutional.[1046] This results in the nullity of fines above the threshold of criminal law. However, the fines provision may be effective for fines

[1040] Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1003. Also Hans Achenbach, "Grauzement, Bewertungseinheit und Bußgeldobergrenze", *WuW* Vol. 63, no. 7-8 (2013), 699.
[1041] Please refer to section B. of this chapter.
[1042] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2100 Ref. 351.
[1043] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 155 et sqq. See also the earlier decision Verfolgungsverjährung. Cases 2 BvL 15/68 and 2 BvL 23/68. BVerfGE 25, 269, 285 et sqq.
[1044] Hans Achenbach, "Grauzement, Bewertungseinheit und Bußgeldobergrenze", *WuW* Vol. 63, no. 7-8 (2013), 698-699. Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 163 et sqq.
[1045] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 155.
[1046] Hans Achenbach, "Grauzement, Bewertungseinheit und Bußgeldobergrenze", *WuW* Vol. 63, no. 7-8 (2013), 688. Earlier Achenbach, "Die Kappungsgrenze und die Folgen - Zweifelsfragen des § 81 Abs. 4 GWB," *ZWeR* Vol. 7, no. 1 (2009), 18-19. Similar Christoph Barth and Stefanie Budde, "Die Strafe soll nicht größer sein als die Schuld, Zum Urteil des BGH in Sachen Grauzement und den neuen Leitlinien für die Bußgeldzumessung", *NZKart* Vol. 1, no. 8 (2013), 311. See also Rainer Bechtold and Martin Buntscheck, "Die 7. GWB-Novelle und die Entwicklung des deutschen Kartellrechts 2003 bis 2005", *NJW* Vol. 58, no. 41 (2005), 2970. Of the same opinion Florian Haus, "Verfassungsprinzipien im Kartellbußgeldrecht – ein Auslaufmodell? Zu den anwendbaren Maßstäben bei der Bemessung umsatzbezogener Geldbußen nach § 81 Abs. 4 GWB", *NZKart* Vol. 1, no. 5 (2013), 190. Also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2098 Ref. 345, 2103 Ref. 357. Also Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1004. Similar Hauke Brettel, "Aktuelle Rechtsprechung zur Bebußung von Kartellordnungswidrigkeiten," ibid Vol. 11, no. 2 (2013), 228.

below the level of criminal law.[1047] Art. 103(2) GG allows for an extensive interpretation within the limits of its wording.[1048] Since the legislator´s intention was the sanctioning of antitrust infringements, he would have chosen to introduce a punishment below the threshold of criminal law and the scope of application of Art. 103(2) GG instead of no punishment due to lacking conformity of the rules with constitutional principles. *Dannecker and Biermann* go even further and propose the application of the scope of punishment laid down in Sec. 81(4) first sentence GWB also for sanctions of firms according to Sec. 30 OWiG, ergo a maximum fine of one million Euro.[1049]

This interpretation, other than the one proposed by the BGH, does also not contradict the wording of Sec. 81(4) second sentence GWB. The legislator did aim at an alignment of the German rules with the European example.[1050] As shown above, European law does de lege lata only allow for fines under the level of criminal law.[1051] Doubts with regard to a violation of the constitutional principle of legal certainty due to the 10 percent threshold do not arise in case of less intense interventions with fines below the level of criminal law, since the requirements of Art. 103(2) GG are less severe with decreasing intensity.[1052]

Hence, **de lege lata Sec. 81 (4) second sentence GWB does only allow for fines below the threshold of criminal law.**

(3) The current FCO guideline´s criteria violate the principle of legal certainty

The criteria for the determination of the fine laid down in Sec. 81(4) second sentence and the FCO guidelines on fining do also cast doubt on their constitutionality. Just as for the scope of fines, the German Federal Constitutional Court has established minimum requirements for the legislative guidance of judicial decisions in the field of criminal law.[1053] According to the BVerfG in its verdict *Vermögensstrafe*, the legislator needs to provide a

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[1047] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2103 Ref. 357.
[1048] Eberhard Schmid-Aßmann, *Grundgesetz-Kommentar*, 67th ed., ed. Theodor Maunz and Günter Dürig (München: C.H. Beck, 2012), Art. 103 Abs. 2 GG Ref. 230.
[1049] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2103 Ref. 357.
[1050] Deutscher Bundestag, Ausschuss für Wirtschaft und Technologie. Beschlussempfehlung und Bericht zu dem Gesetzentwurf der Bundesregierung – Drucksache 16/5847 -. BT-Drucks. 16/7156, 11.
[1051] Please refer back to section IV.1.a) aa) (2) (f) of this chapter.
[1052] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 155 et sqq. See also the earlier decision Verfolgungsverjährung. Cases 2 BvL 15/68 and 2 BvL 23/68. BVerfGE 25, 269, 285 et sqq.
[1053] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1109. See also Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 156 et sqq.

structured framework of criteria in order to limit judicial discretion.[1054] Just as in the European directive, Sec. 81(4) sixth sentence GWB does only contain two criteria for the determination of the fine: **The gravity and the duration of the infringement.**[1055] However, both the literature[1056] and the Federal Court of Justice[1057] consider these criteria to be unqualified to give orientation to the applicants of the law in the process of sanctioning.

The FCO has published guidelines on the method and setting of fines similar to the EC ones, aiming at a concretization of the statutory requirement.[1058] However, as the BGH rightly assesses,[1059] the legislative obligation to define precise criteria for fining may not be replaced by administrative guidelines by the FCO[1060] or the European Commission[1061].

Therefore, the criteria named in the FCO guidelines may not be legally binding concretizations of Sec. 81(4) sixth sentence GWB. Instead, the gravity and duration of the infringement need to be interpreted in order to provide the orientation required by the BVerfG and be in conformity with the constitutional principle of legal certainty.

(4) The current FCO guideline´s criteria violate the principle of the reservation of the law and the principles of proportionality and equal treatment

Further doubts with regard to the constitutionality of Sec. 81(4) sixth sentence GWB and the guidelines on fining published by the FCO arise in view of the **principle of the reservation of the law**. The legislator has referred the practitioners to the administrative guidelines of the European Commission and FCO, Sec. 81(7) GWB.[1062] Yet, having regard to the principle of the reservation of the law, concerns relating to the constitutionality of this reference arise. The legislator needs to provide the framework for sanctions in the field of administrative offenses and may not pass the task on to the administration. Especially in the case of harsh sanctions, the administration and judges need to be carefully

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[1054] Vermögensstrafe. Case 2 BvR 794/95. BVerfGE 105, 135, 156 et sqq.

[1055] Rainer Bechtold and Martin Buntscheck, "Die 7. GWB-Novelle und die Entwicklung des deutschen Kartellrechts 2003 bis 2005", *NJW* Vol. 58, no. 41 (2005), 2970.

[1056] See e.g. ibid. Also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2105 Ref. 361. Also Winfried Hassemer and Jens Dallmeyer, *Gesetzliche Orientierung im deutschen Recht der Kartellgeldbußen und das Grundgesetz* (Baden-Baden: Nomos Verlagsgesellschaft, 2010), 48.

[1057] Grauzementkartell. Case KRB 20/12 Ref. 57.

[1058] Federal Cartel Office, "Leitlinien für die Bußgeldzumessung in Kartellordnungswidrigkeitenverfahren". Promulgation from June 25, 2013.

[1059] Grauzementkartell. Case KRB 20/12 Ref. 57.

[1060] Andreas Weitbrecht and Jan Mühle, "Zur Verfassungsmäßigkeit der Bußgelddrohung gegen Unternehmen nach der 7. GWB-Novelle", *WuW* Vol. 56, no. 11 (2006), 1116.

[1061] Ibid.

[1062] Deutscher Bundestag, Beschlussempfehlung und Bericht des Ausschusses für Wirtschaft und Arbeit zu dem Gesetzentwurf der Bundesregierung – Drucksache 15/3640 –. BT-Drucks. 15/5049, 50.

oriented by legal requirements for the determination of a sanction.[1063] Administrative guidelines like the FCO guidelines on fining antitrust infringements are therefore per se not qualified to concretize an imprecise wording of a legal norm in conformity with the constitution.[1064] Therefore, the lacking precision of Sec. 81(4) GWB in terms of the criteria for the determination of fines does, in addition to the violation of the principle of legal certainty, violate the principle of the reservation of the law.[1065]

Furthermore, the norm violates the **principle of proportionality**[1066], guaranteed as part of the rule of law in Art. 20(3) GG and Art. 1(1) in connection with Art. 2(2) GG.[1067] The principle of proportionality requires sanctions to be proportional to the wrong done by the infringer.[1068] It does not only apply to criminal law, but also to sanctions imposed by the administration.[1069] As outlined above, Sec. 81(4) GWB does refer to the total turnover of a firm for the determination of the fine. There is, however, no compelling link between the total turnover of a firm and the wrong from an antitrust infringement and its effect on the market.[1070] A penalty for hardcore infringements reaching the maximum fine derived from the firm´s turnover would therefore be without reference to the actual delinquency and thus violate the constitutional principle of proportionality.[1071] The additional criteria of gravity and duration of the infringement are themselves too imprecise to make a contribution to proportional sanctions.[1072]

The Federal Court of Justice decided in 1991 under the previous system that sanctions in antitrust need to be in a fair proportion to the effect the infringing act had on competition.[1073] This link between fault committed and punishment is, also required under the

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[1063] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2098 Ref. 345.
[1064] Ibid, 2101 Ref. 352.
[1065] Martin Buntscheck, "Der „verunglückte" Abschied von der Mehrerlösgeldbuße für schwere Kartellverstöße. Kritische Anmerkungen zu § 81 Abs. 4 Satz 2 GWB", in: *Recht und Wettbewerb.* Festschrift für Rainer Bechtold zum 65. Geburtstag, ed. Ingo Brinker, Dieter H. Scheuing, and Kurt Stockmann (München: Verlag C.H.Beck, 2006), 94 et sqq. See also Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1003 et sqq.
[1066] Christoph Barth and Stefanie Budde, "Die Strafe soll nicht größer sein als die Schuld, Zum Urteil des BGH in Sachen Grauzement und den neuen Leitlinien für die Bußgeldzumessung", *NZKart* Vol. 1, no. 8 (2013), 314.
[1067] Bernd Grzeszick, *Grundgesetz-Kommentar*, 67th ed., ed. Theodor Maunz and Günter Dürig (München: C.H. Beck, 2012), Art. 20 GG Ref. 108, 124.
[1068] Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1005.
[1069] Bernd Grzeszick, *Grundgesetz-Kommentar*, 67th ed., ed. Theodor Maunz and Günter Dürig (München: C.H. Beck, 2012), Art. 20 GG Ref. 124.
[1070] Hans Achenbach, "Grauzement, Bewertungseinheit und Bußgeldobergrenze", *WuW* Vol. 63, no. 7-8 (2013), 699. Also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2100 Ref. 351.
[1071] Ibid. With reference to Wolfgang Deselaers, "Uferlose Geldbußen bei Kartellverstößen nach der neuen 10 percent Umsatzregel des § 81 Abs. 4 GWB?", *WuW* Vol. 56, no. 2 (2006), 121.
[1072] Winfried Hassemer and Jens Dallmeyer, *Gesetzliche Orientierung im deutschen Recht der Kartellgeldbußen und das Grundgesetz* (Baden-Baden: Nomos Verlagsgesellschaft, 2010), 48.
[1073] Federal Court of Justice. Case KRB 5/90. WuW/E BGH 2718-2720.

current system.[1074] The total turnover is of no relevance for this question, though.[1075] Sec. 81(4) GWB in its current form does also violate the constitutional principle of proportionality.[1076]

Eventually, concerns referring to a violation of the **principle of equal treatment**, Art. 3 GG, through Sec. 81(4) GWB have been expressed, mainly by *Gürtler*.[1077] The criticism is based on the fact that any firm under Sec. 81(4) GWB is treated differently from other addressees of Sec. 81 GWB and firms in fields of law other than antitrust.[1078] Yet, there is an objective justification for this differentiation: The legislator considers firms and persons acting in commercial interest to be more likely to participate in competition violations with considerable effects in the markets. It can therefore not be argued convincingly that there is no plausible reason for the differentiation at all.[1079]

In conclusion, the criteria for the determination of fines laid down in Sec. 81(4) GWB violate the constitutional principles of the reservation of the law and the principle of proportionality; besides the above-proved violation of the principle of legal certainty. The following section will propose an interpretation of these criteria different from the FCO approach in its guidelines, but in conformity with the German constitution.

[1074] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2102 Ref. 355.
[1075] Wolfgang Deselaers, "Uferlose Geldbußen bei Kartellverstößen nach der neuen 10percent Umsatzregel des § 81 Abs. 4 GWB?", *WuW* Vol. 56, no. 2 (2006), 121.
[1076] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2103 Ref. 356.
[1077] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 17 Ref. 48c.
[1078] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2102 Ref. 354.
[1079] Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1005. The same opinion is held by ibid.

(5) Determination of government fines D_G in accordance with Sec. 81(7) GWB and constitutional law

The interpretation of Sec. 81(4) sixth sentence GWB in conformity with constitutional law needs to balance both the aggravating and mitigating circumstances of an infringement. The basic rule in German law for the determination of fines in cases of administrative offenses is Sec. 17(3) OWiG.[1080] This paragraph reads[1081]:

> *"The significance of the regulatory offense and the charge faced by the perpetrator shall form the basis for the assessment of the regulatory fine. The perpetrator´s financial circumstances shall also be taken into account; however, they shall, as a rule, be disregarded in cases involving negligible regulatory offenses."*

(a) The relationship between Sec. 17(3) OWiG and Sec. 81(4) sixth sentence GWB

In a first step, it has to be elaborated how Sec. 17(3) OWiG behaves to Sec. 81(4) sixth sentence GWB. The legislator has not specified the hierarchy between the two norms.[1082] The legal system suggests the understanding of Sec. 81(4) sixth sentence GWB as a special rule for the determination of fines in antitrust offenses as opposed to the general rule for all administrative offenses codified in Sec. 17(3) OWiG.[1083] The gravity and duration of the offense are criteria relevant also – besides other criteria – as aspects of the significance of the offense in Sec. 17(3) OWiG.[1084] Therefore, the general rule in Sec. 17(3) OWiG has to be considered in the process of the determination of fines under Sec. 81(4) GWB.[1085]

[1080] Grauzementkartell. Case KRB 20/12 Ref. 58. See also Martin Buntscheck, "Der „verunglückte" Abschied von der Mehrerlösgeldbuße für schwere Kartellverstöße. Kritische Anmerkungen zu § 81 Abs. 4 Satz 2 GWB", in: *Recht und Wettbewerb.* Festschrift für Rainer Bechtold zum 65. Geburtstag, ed. Ingo Brinker, Dieter H. Scheuing, and Kurt Stockmann (München: Verlag C.H.Beck, 2006), 93.

[1081] The translation from German into English is taken from the German Federal Ministry of Justice internet page, http://www.gesetze-im-internet.de/englisch_owig/englisch_owig.html#p0068 and was provided by Neil Mussett.

[1082] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2104 Ref. 358.

[1083] Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1004. See also ibid, 2104 Ref. 360.

[1084] Martin Buntscheck, "Der „verunglückte" Abschied von der Mehrerlösgeldbuße für schwere Kartellverstöße. Kritische Anmerkungen zu § 81 Abs. 4 Satz 2 GWB", in: *Recht und Wettbewerb.* Festschrift für Rainer Bechtold zum 65. Geburtstag, ed. Ingo Brinker, Dieter H. Scheuing, and Kurt Stockmann (München: Verlag C.H.Beck, 2006), 93.

[1085] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2104 Ref. 360. Also Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Sec. 81 GWB 2005 Ref. 232.

Yet, the criteria named in Sec. 17(3) OWiG – the significance of the offense and the financial circumstances of the offender – are as imprecise as the ones specified in Sec. 81(4) GWB. Other than in the case of Sec. 81(4) GWB, however, there is substantial jurisdiction concretizing the criteria Sec. 17(3) OWiG names.[1086]

(b) The gravity of the infringement

Having regard to the gravity of the infringement, *Dannecker and Biermann* propose the reference to the concrete effect of the offense on the market.[1087] According to their opinion, the degree of impairment shall be assessed based on rational criteria, particularly the extent of the damage caused.[1088] For the case of manipulations of price competition, they assume the necessity of an increased protection, since customers are directly and palpably affected.[1089] In markets with a vulnerability to restraints of competition, particularly oligopolistic market structures with trade in homogenous goods, violations of antitrust laws shall be punished more rigorously.[1090]

Yet, this approach ignores the structural difference between the preceding regime before the 7th amendment of the GWB in 2005 and the then newly introduced Sec. 81(4) GWB: Whilst the regime was based on surplus revenue absorption ("Mehrerlösabschöpfung") before 2005, Sec. 81(4) GWB, following the European example, refers solely to the gravity and duration of the infringement. In German antitrust law, there is no prototype for these criteria. Hence, the traditional rules on fining and the former jurisdiction relating to Sec. 17(3) OWiG are not applicable to Sec. 81(4) GWB.[1091]

[1086] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2105 Ref. 361.
[1087] Ibid, 2109 Ref. 371. With reference to Federal Court of Justice. Case KRB 5/90. WuW/E BGH 2718, 2720.
[1088] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2110 Ref. 372.
[1089] Ibid, 2110 Ref. 373. With reference to Programmzeitschriften. Case Kart 6/79. WuW/E OLG 2369, 2374. Bitumenhaltige Bautenschutzmittel II. Case Kart 15/73. WuW/E OLG 1449, 1455. Bilder aus Gold. Case Kart 29/72. WuW/E OLG 1407, 1409. Linoleum. Case Kart 4/72. WuW/E OLG 1339, 1348 et sqq. Aluminium-Halbzeug. Case Kart 2/72. WuW/E OLG 1327, 1334. Tubenhersteller II. Case Kart B 20/71. WuW/E OLG 1253, 1264. Branche Heizung/Klima/Lüftung. Case Kart 4/91. WuW/E OLG 4885, 4894.
[1090] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2110 Ref. 373.
[1091] Dominic Thiele, "Zur Verfassungswidrigkeit des § 81 IV GWB", *wrp* Vol. 21, no. 8 (2006), 1005.

(c) A new approach to the interpretation of the gravity criterion

Therefore, the interpretation of the gravity criterion requires a different approach that is particularly independent of the former "Mehrerlös jurisdiction" and adequate to ensure orientation of potential addressees. The problem of the determination of sanctions has been treated in German law before, yet in another context: The **violation of personal rights**. This section will elaborate how the purpose of sanctioning and the criteria for the determination of a proportional sanction in the *Caroline* jurisdiction may be compared to the problems in the field of antitrust fines.

In the antitrust literature, there is largely consensus on the purpose of fining: The main focus is on the prevention of future infringements of competition. Other than in general cases of administrative offenses, where specific deterrence through the punishment of past wrongful behavior is intended, antitrust law aims at the future elimination of violations.[1092] This purpose is precisely the same as the considerations that underlie financial compensations in civil law in cases of violations of personal rights: In its *Soraya* decision, the Federal Constitutional Court considered violations of the general right of personality (Art. 1, 2 GG) another right protected by Sec. 823(1) BGB.[1093] The claim to financial compensation for victims of violations does, according to settled case law, focus on the prevention of future violations.[1094] This means that in the process of determination of the compensation, the notion of prevention prevails.[1095] Although the financial compensation in civil law is not a criminal punishment in the meaning of Art. 103(2) GG,[1096] **the purpose of sanctioning is quite the same**. It is therefore reasonable to consult the considerations underlying financial compensations for personality rights violations for the determination of fines for antitrust violations according to Sec. 81(4) GWB.

Financial compensation for violations of personal rights is considered to fulfill the purpose of prevention if its amount mirrors the gain to the offender from the violation of the right. This does not intend the absorption of profits, but **the consideration of the profit from the violation of personal rights as a criterion for the determination of the compensation.** As a result, the compensation determined needs to trigger an inhibitory effect

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[1092] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2105 Ref. 362. With reference to Aluminium Halbzeug. Case B1 – 280000 – A – 10/59. WuW/E BKartA 1369, 1371.

[1093] Soraya. Case 1 BvR 112/65. NJW 1973, 1221.

[1094] Hans-Peter Schwintowski, Cordula Schah Sedi, and Michel Schah Sedi, *Handbuch Schmerzensgeld* (Köln: Bundesanzeiger Verlag, 2013), 125 Ref. 69. With reference to Persönlichkeitsrechtsverletzung. Case VI ZR 56/94. NJW 1995, 861, 864.

[1095] Prävention. Case VI ZR 332/94. NJW 1996, 984 Ref. 14. See also Unnamed Decision. Case VI ZR 255/03. NJW 2005, 215 Ref. 13.

[1096] Soraya. Case 1 BvR 112/65. NJW 1973, 1221 Ref. 46. See also Unnamed Decision. Case VI ZR 255/03. NJW 2005, 215 Ref. 13.

on the infringer.[1097] This method approaches the findings of the precedent economic analysis on optimal fines for manipulative behavior in the market. The expected cost to the infringer should equal his gain from the violation of the law:[1098]

$$\Delta\Pi = p_P(e) \cdot C_D.$$

Applied to Sec. 81(4) GWB, this approach introduces a **new interpretation of the gravity criterion**. Gravity of the antitrust infringement in the understanding of the underlying notion of prevention refers to the financial equivalent necessary to refrain from it. This interpretation offers the classification of various kinds of antitrust infringements on a financial scale according to a multiple of the profit expectation[1099] the infringer sets into them. This expectation will regularly be correlated to the harm done to the other side of the market: Farther-reaching interventions in the price mechanism result in higher gains to the firm practicing them.

This interpretation of the gravity criterion does also not violate the constitutional principles of legal certainty and proportionality. The profit expectation from any action in the market is part of the business considerations of firms´ decision makers. This criterion is therefore transparent and well foreseeable to them. It contains a clear assessment of the degree of the wrong for any individual action by the legislator. Beyond that, the proposed interpretation does not violate the principle of proportionality. It assigns a proportional sanction to any infringement a firm might commit that equals precisely the wrong done by the firm.

Also, the European law, if taken into account alternatively according to the German legislator´s proposal,[1100] suggests the change in profit achieved from the infringement to be the main determinant of the gravity of the infringement.[1101]

In conclusion, **the understanding of the gravity criterion as the equivalent to the firm´s gain from the antitrust infringement represents an allowed interpretation of Sec. 81(4) sixth sentence GWB**. De lege lata, fines for market manipulations do

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[1097] Hans-Peter Schwintowski, Cordula Schah Sedi, and Michel Schah Sedi, *Handbuch Schmerzensgeld* (Köln: Bundesanzeiger Verlag, 2013), 126 Ref. 70. With reference to Prävention. Case VI ZR 332/94. NJW 1996, 984 Ref. 16.

[1098] Please refer to Section B. of this chapter.

[1099] The multiple is due to the fact that the infringer calculates with a probability of detection smaller than 1. See section B of this chapter and section B.II.1. with further reference to Emmanuel Combe, Constance Monnier and Renaud Legal, "Cartels: The Probability of Getting Caught in the European Union", *Working paper* (2008). Also John M. Connor and C. Gustav Helmers, "Statistics on Modern Private International Cartels, 1990-2005", *American Antitrust Institute Working Paper* No. 07-01, 38.

[1100] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2105 Ref. 361.

[1101] S.A. Musique Diffusion Francaise (Pioneer) v Commission. Joined Cases 100/80 – 103/80. European Court Reports 1983, 1825 Ref. 121. For a detailled analysis oft he interpretation of the European rules, please refer to section B.IV.1.a) aa) (4) (a) of this chapter.

therefore have to be determined dependent on the individual firm´s profit expectations from the antitrust offense.

(d) The duration of the infringement

With regard to the **duration** of the infringement, the debate has been much less controversial. Other than the gravity criterion, the reference to the duration of an abusive market behavior is clear and transparent, thus in conformity with the constitutional requirement of legal certainty. Its interpretation is therefore straightforward.

(6) Conclusion: German applicable law requires a reduction of government fines D_G de lege lata

The preceding sections have presented detailed proof for the initially formulated thesis: De lege lata, government fines for market manipulations may not reach the level of criminal law. The applicable German constitutional law requires therefore a lowering of the fines below this threshold. While some authors refer to Sec. 81(4) first sentence GWB (one million Euro)[1102], this work proposes a more complex approach. The unconstitutional interpretation of the gravity criterion needs to be replaced by the profit-oriented approach introduced above that is in conformity with the constitution.

cc) Conclusion

For both, European and German law, the violation of higher-ranking law through the scope and criteria of the fines provisions in Art. 23(3) of Regulation N° 1/2003 respectively Sec. 81(4) GWB has been proved. The preceding sections have shown the legal consequences from the violation of higher-ranking law: The lowering of fines below the level of criminal law de lege lata and an interpretation of the criteria for the determination which fulfills the requirements of the principles of legal certainty and proportionality. These findings are in accordance with the results of the economic analysis on optimal deterrence of market manipulations, which found far too high values for government fines D_G under the current European Commission and FCO practice.

[1102] Brettel and Thomas, "Unternehmensbußgeld, Bestimmtheitsgrundsatz und Schuldprinzip im novellierten deutschen Kartellrecht," *ZWeR* Vol. 7, no. 1 (2009), 63.

Yet, the legal analysis identified constitutional principles in both the European and German legal system, which limit antitrust fines in scope de lege lata. As a result, the optimal level of government fines D_G is enforceable under the applicable law through a necessary reduction de lege lata. This reduction does however lead to an imbalance in the deterrence equation: If an element of the fines variable decreases – in this case the government fine D_G–, other elements of this variable, respectively the second factor, the probability of punishment, need to increase, to restore the balance of the deterrence equation.

Therefore, a further extension of deterrence for manipulations may only be reached by means of alternative punishment introduced in the subsequent sections b) and c) and, more importantly, through an increase of the probability of detection and punishment p_p discussed in subsection 2.

b) Shift of the liability from firms to individuals: The individual cost of detection c_D

Since both the economic and the legal analysis revealed that an antitrust enforcement system with very high corporate fines and a low probability of detection does not lead to socially optimal deterrence, alternative sanctions need to be used in antitrust enforcement. As a first tool, this section discusses the liability for criminal conduct of the firms´ agents as opposed to corporate fines.[1103] Individual liability increases the deterrent effect of antitrust enforcement[1104] with fines in accordance with higher-ranking law. The reason for the increase in deterrence lies in the change of incentives: Corporate fines are hardly internalized by the employees who engage in manipulative behavior.[1105] The fine is paid by the company and its owners, in case of public corporations the shareholders,[1106] who have no influence on the employees´ decisions on whether to engage in manipulative practices or not.[1107] Rather, their decision to hold or sell a corporation´s stock depends on the estimated earnings of the firm, or the market value of their shares.[1108] Manipulative

[1103] See already Klaus Tiedemann, "Die strafrechtliche Vertreter- und Unternehmenshaftung," *NJW* Vol. 39, no. 30 (1986), 1843.
[1104] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 16. See also Markus Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Heinrich Dörner, Dirk Ehlers, and Michael Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 20.
[1105] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 14.
[1106] See e.g. Artur Robert Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 95.
[1107] Andreas Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Erich Samson and Klaus Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 356.
[1108] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 17.

behavior increasing the market value of the corporation will not induce shareholders to sell their shares and thereby exert pressure on the firm´s agents to end it.[1109] By contrast, fines levied upon the shareholders may only have an effect ex post and remain without influence on the day-to-day operations of the firm due to a lack of information.[1110] Shareholders are therefore no suitable supervisors with regard to the antitrust conformity of corporate decisions.

Corporate agents, however, possess information that may be used for unfair commercial practices.[1111] Moreover, corporate directors, officers and employees might gain from manipulative behavior through incentive bonuses paid for increased profits of the company in the short run, regardless of the legal compliance of their decisions.[1112] In the long run, they have moved to another company or retired from their jobs – the damage remains to be paid by the shareholders and does not present a risk to the acting agents. Hence, individuals with direct influence on the day-to-day operations of the firm do lack a sufficient incentive to respect the antitrust laws under the current system.

In this conventional view of antitrust enforcement, public authorities remain to monitor the corporation. Yet, also they do often lack the information and influence firm insiders possess, which makes their task a difficult one.[1113] Hence, antitrust compliance and monitoring is in a deadlock situation with directors and employees lacking an incentive to comply with the antitrust laws and company outsiders – e.g. shareholders and authorities – lacking the information to insist on compliance. The following image illustrates the incentive problem in an overview:

[1109] Indicated in Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 101.

[1110] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010) 17.

[1111] Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 2.

[1112] Jörg Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 16. See also Florian Wagner-von Papp, "Kriminalisierung von Kartellen," *WuW* Vol. 60, no. 3 (2010), 272. Equally Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 17.

[1113] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 17. See also *Ransiek, Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 2, 338.

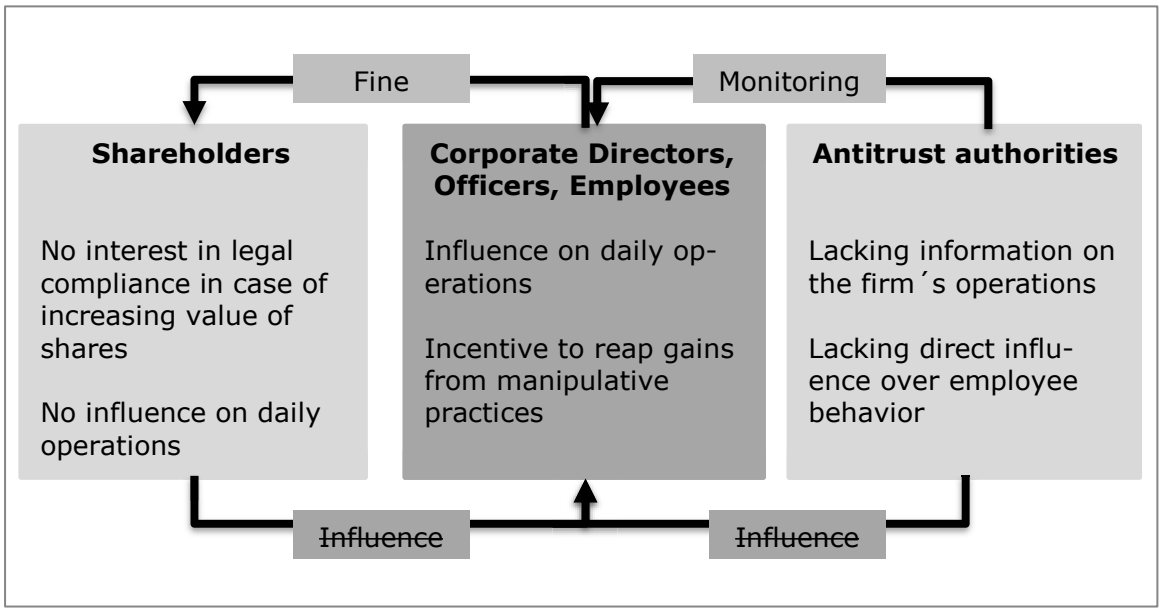

Figure 17: The incentive problem in antitrust deterrence

From this model, it may easily be derived why a shift from increasing corporate fines towards sanctioning of individual employees might present a more cost-effective way to increase deterrence.[1114] Targeting the sanction to the person actually making the decision to manipulate solves the incentive problem. Agents face an individual expected damage d_E from detection of manipulations that equals the probability of prosecution times the individual cost of detection, e.g. the fine (c_D):

$$d_E = p_P(e) \cdot c_D.$$[1115]

More precisely, a corporate agent does weigh the individual gain from the antitrust offense ($\Delta\pi_i$) against the cost, the individual expected damage d_E to be paid in case of detection:

$$\Delta\pi_i = d_E \text{ or}$$

$$\Delta\pi_i = p_P\,(e) \cdot c_D.$$

This approach allows for more precisely directed (and therefore more effective) deterrence and lower fines: The threat of direct personal financial losses increases the appeal to respect the laws.[1116] The following subsections will examine whether and for which groups

[1114] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 17.
[1115] William M. Landes, "Optimal Sanctions for Antitrust Violations", *The University of Chicago Law Review*, Vol. 50, no. 2 (1983), 657. See also Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Pratice", *World Competition* Vol. 29, no. 2 (2006), 12. Precisely for the case of individual fines Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 102.
[1116] A. Mitchell Polinsky and Steven Shavell, "Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?," *International Review of Law and Economics* Vol. 13, no. 3 (1993), 240. Also Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts:

of agents individual sanctions for manipulations are allowed under the existing European and German law. Just as for corporate fines, the analysis differentiates between publicly imposed fines d_G and privately imposed fines d_P (e.g. through recourse of the firm according to corporate law or private damages actions). Hence, the total individual cost c_D adds up to:

$$c_D = d_G + d_{P,}$$

$$\text{with } d_P = \overline{d_P}.$$

Publicly imposed sanctions on individuals d_G may be further differentiated in public fines (d_{GF}), imprisonment (d_{GJ}), and debarment (d_{GD}):

$$d_G = d_{GF} + d_{GJ} + d_{GD}.$$

Subsection aa) focuses on publicly imposed fines on individuals d_{GF} through the authorities. The following subsection bb) then discusses imprisonment d_{GJ} as a means of deterrence.[1117] Alternative individual sanctions, such as debarment from the employment market, are discussed in subsection cc). Section dd) concludes.

Privately imposed individual sanctions, usually imposed through recourse damage claims or private damages actions, are treated in the chapter on private market surveillance (section D. of this work).

aa) Publicly imposed fines for corporate agents d_{GF} (de lege lata)

Public fines for corporate employees have a number of advantages, compared to private claims for damages treated in section D. of this work. First, corporate law as the basis of private lawsuits only provides liability rules for corporate managers or company directors. Members of the corporate management might therefore be held liable for the participation in antitrust infringements or any action, which orders, inspires, tolerates or approves such behavior in the company.[1118]

The existing corporate law does however, not cover infringements committed by employees on lower organizational levels of the company. Yet, it might be advantageous to target the actual employee who is manipulating the market for the following two reasons: First,

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Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 17. See also Tiedemann, "Die strafrechtliche Vertreter- und Unternehmenshaftung," *NJW* Vol. 39, no. 30 (1986), 1843.

[1117] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 9.

[1118] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 15.

that employee is directly responsible for the manipulation and may well be deterred by the threat of a sanction, whereas a director or officer may only be efficiently deterred if he is able to monitor and, if necessary, stop the employee engaging in illegal market manipulations.[1119] Second, an employee has less to gain from manipulations[1120] than has a corporate manager or company director, which allows for smaller fines to reach an efficient level of deterrence.[1121]

Furthermore, in practice companies buy insurance for their directors and officers, so-called D&O insurance contracts.[1122] Even though Sec. 93(2) third sentence AktG requires a deductible of ten per cent of the damage done to the company reaching up to a maximum of one and a half times the fixed annual remuneration,[1123] insurance still lowers the deterrent effect of fining. An exemption is the exclusion of insurance coverage in cases of intentional or even just knowing violations of the law.[1124]

Third, the private liability of corporate agents is based upon the shareholders´ action against current or former corporate managers. Yet, the incentive scheme pictured in figure 17 has already shown the weak influence of shareholders on corporate decisions and their low interest in costly monitoring and enforcement of corporate compliance with antitrust laws.

As a result, publicly imposed fines for antitrust infringements of corporate agents promise what previous actions failed to provide: The link of profit opportunities and responsibility for the risks taken. The following section will examine whether German law allows for fining of company agents directly, respectively which changes to the current legal system are necessary to enhance individual deterrence.

[1119] Polinsky and Shavell, "Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?," *International Review of Law and Economics* Vol. 13, no. 3 (1993), 240. See also OECD, "Cartel Sanctions Against Individuals," (2003), 7.

[1120] Advantages from market manipulations might be financial advantages or a promotion. See Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 16.

[1121] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 18.

[1122] Andreas Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 169. See also Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 209.

[1123] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 116. Refer also to Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 189.

[1124] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 116. See also Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 169.

(1) Fines for corporate agents in antitrust law

The treatment of individual sanctions differs between European and German antitrust law. The following sections will discuss the opportunity of targeted individual sanctions in both European (a) and German (b) antitrust law.

(a) Fines for corporate agents in European antitrust law

European antitrust law, namely Art. 101 and 102 TFEU, as well as the administrative offenses codified in Art. 23 of Regulation N° 1/2003, is addressed to companies exclusively, thus entrepreneurs and associations of undertakings.[1125] Punishment of individuals is only possible where a natural person is the proprietor of the firm, however, sanctions have only been addressed to the firms in the past.[1126]

Fines may not be levied upon corporate agents, e.g. managing directors or members of the executive board.[1127] The question of **individual liability** needs thus to be addressed **de lege ferenda**. Since the emphasis of this work is on the situation de lege lata, only subsection (3) will shortly consider whether changes in European law towards individual sanctions are a useful enhancement of deterrence.[1128] De lege lata, d_{GF} in European law equals zero:

$$d_{GF} = 0.$$

[1125] Christian Müller-Gugenberger, *Wirtschaftsstrafrecht. Handbuch des Wirtschaftsstraf- und –ordnungswidrigkeitenrechts*, 4th ed., ed. Christian Müller-Gugenberger and Klaus Bieneck (Köln: Verlag Dr. Otto Schmidt, 2006), 1769 Ref. 50. See also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht EG/Teil 2, Kommentar zum Europäischen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1931 Ref. 71 and Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 11.

[1126] Ibid. See also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht GWB, Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1913 Ref. 71. With reference to Pre-Insulated Pipe Cartel. Case IV/35.691/E-4. EU Official Journal N° L 24/1 Ref. 157 et sqq. and HFB and Others v Commission. Case T-9/99. European Court reports 2002, II-1530 (2002) Ref. 105. In favor of this approach Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 327. Also Tiedemann, "Die strafrechtliche Vertreter- und Unternehmenshaftung," *NJW* Vol. 39, no. 30 (1986), 1843.

[1127] Christian Müller-Gugenberger, *Wirtschaftsstrafrecht. Handbuch des Wirtschaftsstraf- und –ordnungswidrigkeitenrechts*, 4th ed., ed. Christian Müller-Gugenberger and Klaus Bieneck (Köln: Verlag Dr. Otto Schmidt, 2006), 1769 Ref. 51. See also Bernd A. Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 70, 73. Also Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 229. Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 294.

[1128] Critical Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht*, Regelungsalternativen, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 333 et sqq.

(b) Fines for corporate agents in German antitrust law

In German antitrust law, individuals may be fined by the authorities for infringements of the law.[1129] Sec. 81(1)-(3) GWB contain rules on administrative offenses. The wording of this norm does not limit the pool of potential offenders.[1130] Offenses in antitrust may hence be both: Offenses of entrepreneurs or general offenses not requiring a specific type of offender. For any individual offense, the required specific type of offender needs to be determined individually. In this process, the German Code on Administrative Offenses (OWiG), needs to be consulted.[1131] Offenses requiring a specific type of offender refer to Sec. 9 OWiG with regard to the pool of potential offenders.[1132]

Sec. 81(2) N° 1 GWB, that sanctions the abuse of a dominant position (offense against Sec. 19 GWB), is addressed to firms exclusively. Therefore, the offense may only be committed by a firm holding a dominant position in the market[1133] or an individual under the additional requirements of Sec. 9 OWiG.[1134]

Sec. 9 OWiG allows for the attribution of personal properties from the addressee of the offense to the acting representative:[1135] If the addressee of the offense, who possesses the personal properties required by the law, arranges to be represented e.g. by one of his employees, the representative may be liable through attribution of the personal property of the addressee.[1136] However, Sec. 9 OWiG limits the pool of potential persons to whom specific personal properties may be attributed: They must either be representatives of the firm subject to an antitrust offense (corporate directors´ and officers´ liability according

[1129] Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 230.
[1130] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 49. See also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht GWB, Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1911 Ref. 62.
[1131] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht GWB, Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1894 Ref. 11. Also Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 231.
[1132] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 50. See also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht GWB, Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1911 Ref. 64.
[1133] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Sec. 81 GWB 2005 Ref. 87.
[1134] See also Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht GWB, Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 2022 Ref. 94.
[1135] In detail Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 89.
[1136] Hans W. Többens, "Die Bekämpfung der Wirtschaftskriminalität durch die Troika der §§ 9, 130 und 30 des Gesetzes über Ordnungswidrigkeiten", *NStZ* Vol. 18, no. 1, (1999), 2.

to Sec. 9(1) OWiG) or authorized agents of the firm (substitute liability according to Sec. 9(2) OWiG).[1137]

(aa) Corporate directors´ and officers´ liability (Sec. 9 OWiG)

The corporate directors´ and officers´ liability according to Sec. 9(1) N° 1 OWiG allows for the attribution of the property "firm" to representatives of legal persons, such as the managing director of a GmbH (liable representative according to Sec. 13(1) and 35 GmbHG) or the member of the executive board of a corporation (AG) (liable according to Sec. 1(1), 76(2) and 78 AktG).[1138] Since the four oligopoly firms are organized either as stock corporations (RWE AG, EnBW AG, E.ON SE) or as GmbH (Vattenfall GmbH), their board members respectively directors are potential addressees of the fines provision in Sec. 81(2) N° 1 GWB in connection with Sec. 9(1) N° 1 OWiG.

Their liability requires that they act in their role as legal representatives of the firm and not only incidental with it. All acts driven by the representative´s self-interest and to the firm´s detriment are not covered by the scope of Sec. 9(2) N° 1 OWiG.[1139] The question whether the employee is acting in his own interest is answered with regard to the economic implications of his behavior.[1140] The liability is irrespective of the motivation that drives the infringer or the utilization of organ-specific instruments.[1141] With regard to **market manipulations**, employees intend to increase their employer´s profit according to the considerations presented in the second chapter of this work[1142], probably speculating on higher bonuses or gratifications paid by the employer for their work.[1143] Therefore, the firm´s and the employee´s interests are aligned here and the employee´s behavior may not be considered an act of pure self-interest.

[1137] Ibid.
[1138] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 53.
[1139] Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 91.
[1140] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 9 Ref. 15a.
[1141] Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 92.
[1142] Refer to section B.I. of the second chapter of this work.
[1143] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 16.

Also, the firm´s representative needs to be aware of the circumstances that his perpetration of the offense according to Sec. 9 OWiG is based upon. Otherwise he lacks intention.[1144] Corporate directors and board members are aware of their role as representatives of the firm and therefore acting intentionally if they decide to manipulate the market.

As a result, **corporate directors and board members may be held liable** for engaging in manipulative practices in the energy market directly according to Sec. 81(2) N° 1 GWB in connection with Sec. 9(1) N° 1 OWiG de lege lata. Currently, fines imposed on individuals only account for a small percentage of the total fine volume.[1145] Only about one percent of antitrust fines were targeted to individuals in 2009 and 2010,[1146] with slightly higher values for 2011 (three percent) and 2012 (four percent).[1147] The fine amounts to one year´s gross salary.[1148] It is limited to one million Euro, Sec. 81(4) first sentence GWB. This threshold is however not in accordance with the deterrence approach introduced above: Any infringement that promises an expected gain for the manager exceeding one million Euro will still be more attractive to him than compliance with the antitrust laws.[1149]

Furthermore, the German Federal Court of Justice found in a 1990 verdict that firms may compensate their employees for fines paid due to illegal behavior in the interest of the firm.[1150] Such compensation further reduces the incentive to legal compliance for the management.

(bb) Individual liability of subordinate employees according to Sec. 9 OWiG

With regard to the individual liability of a firm´s employees, the legal status is more complicated. Sec. 9(2) N° 1 OWiG extends the attribution of the property "firm" also to

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[1144] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 9 Ref. 7.
[1145] Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 289. See also Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 94.
[1146] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 92. With reference to Federal Cartel Office, Bericht des Bundeskartellamtes über seine Tätigkeit in den Jahren 2009/2010 sowie über die Lage und Entwicklung auf seinem Aufgabengebiet, 2011, BT-Drucks. 17/6640, 37.
[1147] Bericht des Bundeskartellamtes über seine Tätigkeit in den Jahren 2011/2012 sowie über die Lage und Entwicklung auf seinem Aufgabengebiet, 2013, BT-Drucks. 17/13675, 28.
[1148] Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 119. Also *Federmann, Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 96.
[1149] However arguing in favor of the cap Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 111.
[1150] *Unnamed Decision*, Case 2 StR 439/90, BGHSt 37, 226 Ref. 27 (German Federal Court of Justice 1990).

persons who have been authorized by the firm owner or the management to run the business or at least a part of it.[1151] This subsection applies to managers of sub-companies, as well as managers of divisions of a company[1152] or functionally separate parts of the undertaking[1153]. Its application needs to be restrictive in order to comply with the constitutional guarantee in Art. 103(2) GG and Sec. 3 OWiG. Therefore, the employee´s position must contain a degree of responsibility that involves handling the owner´s duties self-evidently.[1154]

By all means, the individuals named in Sec. 30(1) N° 4 OWiG (general managers and comparable positions) are covered by the scope of Sec. 9(2) N° 1 as they belong to the management representatives of the firm, as well as some of the representatives named in Sec. 30(1) N° 5 OWiG (leading positions).[1155] However, not only company agents in leading positions are subject to the attribution of properties according to Sec. 9(2) N° 1 OWiG, but also employees with an own functional responsibility who take a managerial role on behalf of the owner of the firm. Only subordinate positions are not covered by the norm.[1156]

The decisive criterion is **the employee´s power to make decisions**. In case this power remains reserved to a higher level in the firm organization, also the liability remains on this level. Only employees working in a position similar to the one of their employer may be obliged to fulfill the employer´s duties.[1157] However, the employee is obliged to point out the illegality towards his superior. Furthermore, he may be hold liable for crossing the borders of his power to make decisions or participating intentionally in his superior´s illegal activities (Sec. 14 OWiG).[1158]

With regard to the four oligopoly firms having an incentive to manipulate the energy market, huge enterprises are addressed. Sec. 9(2) N° 1 OWiG surely applies to the management board respectively corporate directors of E.ON SE, RWE AG, EnBW AG and Vattenfall

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[1151] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 57.
[1152] For the case of a branch see Bitumenhaltige Bautenschutzmittel II. Case Kart 15/73. WuW/E OLG 1449, 1453.
[1153] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 9 Ref. 21.
[1154] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 57. In great detail Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 97.
[1155] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 9 Ref. 17.
[1156] Ibid, Sec. 9 Ref. 21.
[1157] Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 98.
[1158] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 9 Ref. 18.

GmbH. Also, the managing staff of the trading departments is covered by the norm.[1159] The individual employee in the trading department is, however, bound by the instructions of the management. It must therefore be doubted whether an energy trader acting manipulative in the market possesses the autonomy of action[1160] required for liability according to Sec. 9(2) N° 1 OWiG. Since the value choices in Art. 103(2) GG necessitate a restrictive interpretation of the norm,[1161] **liability of subordinate corporate employees** who actively engage in market manipulations **needs to be negated de lege lata**.

In exceptional cases where employees intentionally participate in their superior´s manipulations, liability for complicity (Sec. 14 OWiG) may fill the gap.[1162] However, this requires intention by both, the addressee of the norm according to Sec. 9 OWiG and the accomplice.[1163]

In conclusion, also in German antitrust law d_{GF} is close to zero:

$$d_{GF} \approx 0.$$[1164]

(2) Fines for corporate agents in capital market law (Sec. 39 WpHG)

Section B.II.1.b) of the third chapter has shown that in German capital market law, fines are directed to both the infringer and the firm.[1165] This section will elaborate the scope of the individual fines and their relationship to the antitrust fines presented above in order to obtain the overall amount of individual fines charged for market manipulations.

All manipulation alternatives of the former Sec. 20a(1) first sentence WpHG, now Art. 12, 15 MAR, are classified as administrative offenses, Sec. 39(3d) N° 2 WpHG. Sec. 39(4a) WpHG imposes an **individual penalty of up to 5 million Euro** for any of these manipulations.[1166] There is no additional profit-related element to this penalty. Just as described

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[1159] Ibid, Sec. 9 Ref. 1.
[1160] Ibid, Sec. 9 Ref. 31.
[1161] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 57.
[1162] Franz Gürtler, *Ordnungswidrigkeitengesetz*, 16th ed., ed. Erich Göhler (München: C.H. Beck, 2012), Sec. 14 Ref. 10.
[1163] Rudolf Rengier, in *Karlsruher Kommentar zum Gesetz über Ordnungswidrigkeiten: OWiG*, ed. Lothar Senger, 4 ed. (München: C.H. Beck, 2014), 277 Ref. 68, 69.
[1164] The minor importance of individual fines is apparently also recognized by the Monopoly Commission: Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 44 Ref. 184.
[1165] Please refer to the third chapter, section B.II.1.b) of this work.
[1166] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 39 Ref. 6.

for the case of antitrust fines above, subordinate employees may only be fined if the requirements of Sec. 9 OWiG are fulfilled.[1167] Hence, individual fines are directed to **corporate directors and board members, but not to the single subordinate employee actually engaging in the manipulative behavior**.

Hence, in German capital market law, individual employees engaging in capacity retention face a potential fine of

$$d_{GF} \approx 0.$$

(3) Conclusion

The above examination on individual liability of employees engaging in manipulations for the benefit of their firms under European and German law has shown that this approach plays only a minor role in deterring manipulations of the energy market. European law does per se solely address the firm. In Germany, the code on administrative offenses allows for the attribution of the property "firm" to individuals in managing positions. However, the (subordinate) energy trader actually realizing the manipulation strategy is also not covered by the rules.

Individual liability for subordinate employees is therefore a question de lege ferenda. Its advantages with regard to deterrence of market manipulations have been explained in the introduction to this section.[1168] Yet, practical problems like the imputation of knowledge and the proof of intent arise with the implementation of employee liability in huge enterprises. These might drive the cost of detection and prosecution to a level that exceeds the gain from decreased antitrust infringements. These questions remain for the legislator to decide. A combined sanctioning system taking account of both corporate and individual sanctioning promises the best results.[1169]

[1167] Zimmer and Cloppenburg, in *Kapitalmarktrechts-Kommentar*, ed. Schwark and Zimmer, 4th ed. (München: C.H. Beck, 2010), § 39 Ref. 3.
[1168] Please refer to section IV.1.b) in this chapter.
[1169] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 16. Refer also to OECD, "Cartel Sanctions Against Individuals," (2003), 7.

bb) The introduction of a new nonmonetary damage variable d_{GJ}: Imprisonment of corporate agents (de lege ferenda)

"Price fixing is nothing less than theft by well-dressed thieves".[1170] This statement by *Scott D. Hammond* introduces another deterrent of antitrust infringements, probably the strongest one: The introduction of imprisonment for natural persons engaging in market manipulations.[1171] It increases the individual cost c_D to the infringer, independently of his income (which is, together with his assets, the limit for fines).[1172] Furthermore, criminal sanctioning comprises a social stigma, which deters illegal behavior more intensely than purely financial sanctions can.[1173] Eventually, reimbursement of fines paid by the infringer through the corporation[1174] is not possible, which enhances deterrence compared to financial sanctions.[1175] For the above named reasons, the Organisation for Economic Co-operation and Development (OECD) has advocated the introduction of criminal sanctions for hard-core cartels repeatedly in the studies and reports following its 1998 recommendation.[1176] However, it is the strongest possible interference in individual rights by the legislator and therefore needs to be considered with great care.[1177] In particular, the suitability of criminal sanctions as a means of problem solving in corporate structures needs to be examined carefully.[1178] The following sections will examine the legal situation in both Europe (1) and Germany (2) and draw a conclusion on the introduction of prison sentences for market manipulations (3).

[1170] Scott D. Hammond, "The Fly On The Wall Has Been Bugged - Catching An International Cartel In The Act," *International Law Congress 2001* Vol. (2001).
[1171] Also proposed by the Monopoly Commission in one of its latest expert opinions: Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 46 Ref. 191 et sqq.
[1172] Polinsky and Shavell, "Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?," *International Review of Law and Economics* Vol. 13, no. 3 (1993), 241.
[1173] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 17.
[1174] Kapp, *Kartellrecht in der Unternehmenspraxis*: Was Unternehmer und Manager wissen müssen, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 219, 231.
[1175] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 17. OECD, "Cartel Sanctions Against Individuals," (2003), 8.
[1176] OECD, "Recommendation of the OECD Council concerning Effective Action against Hard Core Cartels," (1998). Also OECD, "Cartel Sanctions Against Individuals," (2003).
[1177] Hans Achenbach, *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder (Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. Sec. 81 GWB 2005 Ref. 24.
[1178] Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 4.

(1) Criminal sanctions for market manipulations in European law

The European Union lacks a mandate to introduce directly applicable criminal law.[1179] Also, there is no specific competence for the introduction of criminal law in antitrust in Art. 83 TFEU.[1180] Furthermore, Art. 23(5) of Regulation N° 1/2003 explicitly qualifies sanctions according to this regulation as "non-criminal".[1181] Yet, a general competence to obligate Member States to the introduction of criminal norms through directives or regulations is widely accepted.[1182] Directives are addressed to Member States and the resulting criminal law has democratic legitimacy from the national legislator.[1183] Therefore, the competence to order the introduction of criminal sanctions for antitrust infringements remains the only option. Yet, with regard to the intensity of criminal sanctions, the democratic legitimation of the European legislator to define stipulations for Member States appears questionable.[1184] Having regard to the complex political problems arising from European efforts to criminalize antitrust, it seems more sensible to seek a solution in the individual Member States.[1185] The question is therefore limited to German national law.

(2) Criminal sanctions for market manipulations in German antitrust law

The German legislator has initially decided against the utilization of criminal law in antitrust.[1186] In 1997, however, the law on the fight against corruption[1187] extended the scope of application of criminal law to the protection of supra-individual interests and introduced Sec. 298 German Criminal Code (Strafgesetzbuch, StGB), which criminalized bid

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[1179] Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 228-229, 249. See also Ulrich Sieber, "Entwicklungsstand und Perspektiven des europäischen Wirtschaftsstrafrechts," in *Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann*, ed. Bernd Schünemann and Carlos Suarez Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 356.

[1180] Oliver Suhr, in *EUV/AEUV: Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar*, ed. Christian Calliess and Matthias Ruffert, 4th ed. (München: C.H. Beck, 2011), Art. 83 EG Ref. 19. Also Martin Böse, in *EU-Kommentar*, ed. Jürgen Schwarze, 3rd ed. (Baden-Baden: Nomos, 2012), Artikel 83 AEUV Ref. 28-29.

[1181] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 3, 11.

[1182] Ibid, 36. Also *Commission v. Council*, Case C-176/03, European Court Reports 2005, I-07879 (European Court of Justice 2005). Ref. 48.

[1183] Sieber, "Entwicklungsstand und Perspektiven des europäischen Wirtschaftsstrafrechts," in *Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann*, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 360.

[1184] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 41.

[1185] Ibid.

[1186] In detail Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 108 et sqq. Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1889 Ref. 1.

[1187] Law from August 13, 1997. Federal Law Gazette I, p. 2038.

rigging.[1188] Hence, free competition was recognized as a legal asset deserving the protection of criminal law by the legislator.[1189] Further attempts to criminalize antitrust infringements were not launched since 1997, even though this approach is strongly supported by the criminal law literature.[1190] According to today´s evaluation of antitrust infringements, the attribution to the field of administrative orders seems mistaken.[1191] Purely financial sanctions are insufficiently qualified to deter antitrust infringements.[1192] However, the majority of antitrust and commercial law literature rejects the introduction of criminal offenses for antitrust infringements.[1193]

(a) Sec. 263 StGB (Fraud)

In principle, Sec. 81 OWiG requires courts to check administrative offences for a potential relevance under criminal law.[1194] **De lege lata**, the abuse of market power through price manipulations might only be subsumed under **Sec. 263 StGB (fraud)**. The German Federal Court of Justice has discussed the classification of restrictive agreements according to Sec. 1 GWB as fraud in the case *Vergabeverfahren*.[1195] If at all, this jurisdiction may be applicable to other hardcore cartels according to Sec. 1 GWB.[1196] With regard to market manipulations, however, the classification as fraud towards and harmful to the

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[1188] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1892 Ref. 6. Before, the jurisdiction had qualified bid rigging as fraud (Sec. 263 StGB). See *Rheinausbau*, Case 2 StR 102/91, BGHSt 38, 186 (German Federal Court of Justice 1992). Also *Rheinausbau II*, Case 2 StR 256/94, WuW/E BGH 2945 (German Federal Court of Justice 1994).

[1189] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 9. Having claimed this recognition already in the 1970s Jürgen Baumann and Gunter Arzt, "Kartellrecht und allgemeines Strafrecht," *ZHR* Vol. 134(1970), 29, 33.

[1190] Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 113. In detail Gerhard Dannecker and Jörg Biermann, in *Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht*, ed. Ulrich Immenga and Ernst-Joachim Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81 Ref. 17 and footnote 50 with further references.

[1191] Gerhard Dannecker and Jörg Biermann, *Wettbewerbsrecht Band 2: GWB. Kommentar zum Deutschen Kartellrecht*, 4th ed., ed. Ulrich Immenga and Ernst-Joachim Mestmäcker (München: C.H. Beck, 2007), 1895 Ref. 17. Already in the 1970s Baumann and Arzt, "Kartellrecht und allgemeines Strafrecht," ZHR Vol. 134(1970), 29.

[1192] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 12.

[1193] Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 113. See also Dannecker and Biermann, in *Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht*, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81 Ref. 17 and footnote 51 with further references in the literature.

[1194] Erich Göhler, "Zum Bußgeld- und Strafverfahren wegen verbotswidrigen Kartellabsprachen," *wistra* Vol. 15, no. 4 (1996), 133.

[1195] *Vergabeverfahren*, 1 StR 576/00, BGHSt 47, 83 (German Federal Court of Justice 2001).

[1196] Thomas Lampert and Susanne Götting, "Startschuss für eine Kriminalisierung des Kartellrechts?: Anmerkung zu dem Urteil des BGH vom 11.7.2001 "Flughafen München"," *WuW* Vol. 52, no. 11 (2002), 1069 et sqq. Doubtfully Federmann, *Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen* (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 134.

other market side fails due to the absence of deception: The powerful market position of the suppliers is, other than in cartel agreements[1197], known to the demand side and may hence not be subject to an (implied) deception.[1198]

De lege lata, fraud may only be claimed if the demand side facing market power on the other side of the market includes a clause in its general terms and conditions that market power is not being abused. The conclusion of the contract by the seller (possessing full knowledge of the buyers terms and conditions) would contain the statement that no abuse of market power against the provisions of the GWB influences the contract. Hence, the seller has a contractual duty to inform that he violates if he engages in manipulative actions in the market with relevance for the contract in question. Fraud (by omission) could be claimed.[1199] Yet, in practice contracts at the power exchange are being concluded with the exchange clearing house rather than the seller of the power products, Sec. 42 (1) EEX Exchange Rules. They underlie the standardized conditions of exchange trades and do hence not contain a no-abuse-clause.

(b) Sec. 240 StGB (Coercion), Sec. 253 StGB (Blackmail) and Sec. 291 StGB (Usury)

Another approach to criminal sanctions is discussed by *Baumann and Arzt*: The application of Sec. 240 StGB (coercion), Sec. 253 StGB (blackmail) or Sec. 291 StGB (usury) on cases of abuse of market power.[1200] However, the conditions for the application of these provisions may only be met in cases of delivery blocks or incitement to boycott, Sec. 21 GWB.[1201] There is no room for the application of these provisions to market manipulations, since the edge of coercion is not yet crossed due to the lack of an illegal threat.[1202]

Sec. 291 StGB, as well as Sec. 4 Wirtschaftsstrafgesetz (WiStG) (excessive pricing), do only play a minor role in competition law.[1203] Sec. 291 StGB on the one hand requires financial straits or a lack of experience or weak will in the person being affected by the

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[1197] For the existence of a deception in cartel constellations see Dannecker and Biermann, in Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81 Ref. 137. See also Baumann and Arzt, "Kartellrecht und allgemeines Strafrecht," ZHR Vol. 134(1970), 35 et. sqq.

[1198] Federmann, Kriminalstrafen im Kartellrecht: Eine rechtsvergleichende Untersuchung zur Frage der Kriminalisierung von Hardcore-Kartellen (Baden-Baden: Nomos Verlagsgesellschaft, 2006), 135.

[1199] Similar for the case of cartel agreements Baumann and Arzt, "Kartellrecht und allgemeines Strafrecht," ZHR Vol. 134(1970), 35, 37.

[1200] Ibid, 43 et. sqq.

[1201] Dannecker and Biermann, in *Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht*, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81 Ref. 162 et sqq. See also Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 221.

[1202] Baumann and Arzt, "Kartellrecht und allgemeines Strafrecht," ZHR Vol. 134(1970), 45-46.

[1203] Dannecker and Biermann, in *Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht*, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81 Ref. 167.

manipulation[1204], which does not fit the scenario of whole markets being manipulated by powerful firms. Sec. 4 WiStG on the other hand is closer to the case of price manipulations.[1205] It requires restraints of competition or any other economic power as causal factor for excessive prices.[1206] The norm is, however, classified as administrative offense (Sec. 4(2) WiStG) and may therefore not serve as a basis for prison sentences.

(c) Conclusion

In conclusion, German antitrust and criminal law do not allow for prison sentences for market manipulations de lege lata. The introduction of **prison sentences in antitrust** therefore remains a question **de lege ferenda**.[1207]

(3) Criminal sanctions for market manipulations in German capital market law

In capital market law, other than in antitrust, criminal sanctions for market manipulation do exist. This section will introduce the relevant norms in the WpHG and EnWG, but also show that their abstract and imprecise nature makes them a rather ineffective tool for deterrence in practice.

(a) Sec. 38(1) N° 2 WpHG (Formerly Sec. 38(2) WpHG (Market manipulation))

Criminal sanctions for market manipulations could be imposed during the period of examination, if in addition to the requirements of the former Sec. 20a(1) first sentence N° 1, 2, or 3 WpHG an actual influence on the market price was caused by the offender.[1208] Also the influence on the price of commodities according to Sec. 20a(4) WpHG was covered by the criminal sanction, since the legislator mentioned these explicitly in Sec. 38(2) N° 1 WpHG.[1209] After the implementation of the MAR, Sec. 38(1) N° 2 WpHG contains the respective criminal sanction. The norm threatens offenses with prison sentences of up to five years or fines, depending on the motivation of the offender, the scope of the breach

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[1204] Kristian Kühl, in *Strafgesetzbuch: Kommentar*, ed. Karl Lackner and Kristian Kühl, 27th ed. (München: C.H. Beck, 2011), § 291 Ref. 8.
[1205] Dannecker and Biermann, in *Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht*, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81 Ref. 168.
[1206] Ibid.
[1207] A proposal may be found in Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 48 Ref. 204 et sqq.
[1208] Sorgenfrei, in *Kapitalmarktstrafrecht: Handkommentar*, ed. Park, 2nd ed. (Baden-Baden: Nomos, 2008), 363 Ref. 219.
[1209] Dissenting opinion, however with regard to the former legal norms ibid, 364 Ref. 220.

of duty, the way the infringement was executed and the consequences of the offense for investors and the capital market, Sec. 46(2) second sentence StGB.[1210]

However, in practice, criminal sanctions play only a minor role in the deterrence of market manipulations. One of the reasons is probably the lack of legal certainty in the WpHG offenses. The norms are organized as a chain of references throughout the WpHG and the – similarly vague norms in the MaKonV –, which violates the principle of legal certainty (Art. 103(2) GG).[1211] An investigation started at the public prosecution in Leipzig ended without a result due to lacking indications for criminal behavior.[1212]

(b) Sec. 95a EnWG (Infringements of REMIT)

Also Sec. 95a(1) EnWG contains criminal sanctions for market manipulations. Any infringement of Sec. 95(1b) or (1c) N° 6 EnWG is threatened with a prison sentence of up to five years or a fine.[1213] The criminal punishment requires the proof of an actual influence on the market price through the offense and intent by the offender.[1214] Both requirements are difficult to show in practice, especially with regard to the standards that need to be respected in the field of criminal law.[1215] This results in a high number of criminal proceedings being terminated without sanctions. In 2010, there were only 7 convictions based on market manipulation in capital market law.[1216] With regard to manipulations of the energy exchange, there has never been a conviction at all.[1217]

(c) Conclusion

Hence, in capital market law, the existing criminal sanctions turn out to be rather ineffective in practice. The legislator will have to improve and clarify the offenses in case effective deterrence of manipulations is targeted and the principle of legal certainty shall

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[1210] Ibid, 375 Ref. 243.
[1211] Ibid, 363 Ref. 218.
[1212] Request for information at the public prosecution Leipzig, N° 206 AR 3564/14 from January 8, 2016.
[1213] Bachert, "Befugnisse der Bundesnetzagentur zur Durchsetzung der REMIT-Verordnung," *RdE* Vol. 24, no. 9 (2014), 365.
[1214] Theobald and Werk, in *Energierecht: Kommentar*, ed. Danner and Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 95a EnWG Ref. 26 et sqq.
[1215] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 175.
[1216] *Vogel, in Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), 2055 Ref. 14.
[1217] Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010), 198.

be respected. However, this would not eliminate the more basic problem to prove a criminal offense in capital market law in accordance with the standards criminal law requires. The next section will therefore shortly discuss the fundamental adequacy of criminal sanctions in antitrust and capital market law as a means of deterrence.

(4) The introduction of effective criminal sanctions de lege lata and de lege ferenda

The legislator has considerable discretionary power with regard to the choice of tools for the deterrence of market manipulations, which includes the decision about criminalizing the behavior in question.[1218] The preceding sections have shown that currently, the decision has been in favor of criminalization in capital market law and against it in antitrust. For both sides, there are good reasons that will be discussed subsequently.

From an **economic point of view**, the criminalization of antitrust infringements may take huge preventive effect, in case there is a significant probability of detection.[1219] From a legal point of view, the introduction of criminal sanctions for antitrust infringements other than bid rigging would help to restore the balance between administrative offences and criminal acts in German law[1220] and further abolish the different treatment of bid rigging and other serious antitrust infringements.[1221] Since criminal law is the ultima ratio of the legislator, the criminalization of offenses may only be considered under German law if it is inevitable.[1222] In **legal categories**, this standard requires a punishable nature of the behavior in question, as well as the requirement for a criminal punishment.[1223]

[1218] Ransiek, *Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen*, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 322.

[1219] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 18. With reference to Robert M. Feinberg, "The Enforcement and Effects of European Competition Policy: Results of a Survey of Legal Opinion," *Journal of Common Market Studies* Vol. 23, no. 4 (1985), 375. See also OECD, "Cartel Sanctions Against Individuals," (2003).

[1220] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 19-20. See also Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 225.

[1221] Hans Achenbach, in *Frankfurter Kommentar zum Kartellrecht*, ed. Wolfgang Jaeger, Petra Pohlmann, and Dirk Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. § 81 GWB 2005 Ref. 25. Also Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 225.

[1222] Monopoly Commission, *Hauptgutachten XX 2012/2013: Eine Wettbewerbsordnung für die Finanzmärkte* (Baden-Baden: Nomos Verlagsgesellschaft, 2014), 99 Ref. 162.

[1223] Jürgen Baumann, Ulrich Weber, and Wolfgang Mitsch, *Strafrecht Allgemeiner Teil: Lehrbuch*, 11th ed. (Bielefeld: Verlag Ernst und Werner Gieseking, 2003), Sec. 3 Ref. 19.

Both requirements need to be discussed with regard to the legally protected asset.[1224] European law requires proportionality between the criminal offense and the sanction imposed (Art. 49(3) Charter of Fundamental Rights of the European Union). More precisely, appropriateness, necessity and proportionality of the legal instrument with regard to the purpose pursued must be met.[1225] The instrument chosen may also be a sanction "stricto sensu" with an intensity oriented on the value of the legally protected asset offended by the infringer and the social condemnation of the behavior in question.[1226] With regard to antitrust infringements, considerable evidence suggests the **punishable nature** of infringements targeted against free competition according to the above criteria.

First, there is an observable trend to criminalize antitrust infringements over the past decades.[1227] This development reveals an increased social condemnation of antitrust offenses,[1228] also supported by the findings of modern economics pointing to the serious harm of competition restraints to the economy. Second, the remarkably high level of fines both in European and German antitrust law suggests the classification of antitrust infringements as greatly condemned behavior by the legislator. Hence, the fundamental importance of free competition for the economic order leads to the conclusion that undistorted competition constitutes an important legal asset. This evaluation justifies the enforcement of competition with the help of criminal law both in German and European law.[1229]

Notwithstanding the general finding of a punishable nature of antitrust infringements, the **appropriateness of criminal sanctions** needs to be discussed for the diverse types of infringements with special regard to their anti-social character. For the group of hard-core cartels, the benefits of criminal sanctions are widely accepted due to their general dangerousness and the low probability of detection due to their clandestine nature.[1230]

[1224] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 25.
[1225] Georg Freund, in *Münchener Kommentar zum StGB*, ed. Wolfgang Joecks and Klaus Miebach, 2nd ed. (München: C.H. Beck, 2011), Vor §§ 13ff. Ref. 62.
[1226] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 27.
[1227] Ibid, 28.
[1228] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 225.
[1229] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 28-30.
[1230] OECD, "Cartel Sanctions Against Individuals," (2003). Also Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," ZWeR Vol. 5, no. 1 (2007), 32.

The criminalization of one-sided infringements, as **market manipulations** are, is yet much more difficult to justify.[1231] Problems arise with regard to the many legal terms and definitions requiring extensive interpretation, such as the existence of a powerful market position. The definition of behavior that is without any doubt dangerous and condemnable, such as hard-core cartels, seems hardly achievable in a way that satisfies the criteria for criminal sanctions.[1232] Furthermore, one-sided infringements like boycott and discrimination are more obvious in their nature and may therefore more easily be handled using the instruments of civil law (e.g. order to bring the infringement to an end).[1233]

Also, less obvious one-sided infringements like market manipulations are widely considered inappropriate for the introduction of criminal sanctions.[1234] This view is true especially with regard to the requirements of legal certainty in European and German law (Art. 2 TFEU and Art. 20(3), 103(2) GG)[1235], which may not be met having regard to the open wording of the offenses in Sec. 19(2) N° 2 GWB requiring extensive interpretation. The necessarily general and abstract definition of criminal offences in this field might even enfold counterproductive effects if it deters market participants from legitimate actions as a consequence of legal uncertainty (so-called "chilling effect"). Hence, competition might rather be weakened than boosted by the introduction of criminal sanctions for manipulative behavior.[1236] In addition, the experience with the criminalization of bid rigging in 1997 has shown the complex problems arising from criminal cases with economic background.[1237] Headmost, this is the shift of the power of prosecution from the antitrust authorities to the public prosecutor´s office as a practical consequence of criminal sanctions.[1238] The expertise and focus of public prosecution departments are necessarily different from the antitrust authorities´.[1239] Further disadvantages brought forward are a

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[1231] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 229.
[1232] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 33.
[1233] Ibid.
[1234] Wagner-von Papp, "Kriminalisierung von Kartellen," *WuW* Vol. 60, no. 3 (2010), 277. The opposite opinion is hold by Baumann and Arzt, "Kartellrecht und allgemeines Strafrecht," ZHR Vol. 134(1970), 33.
[1235] Baumann and Arzt, "Kartellrecht und allgemeines Strafrecht," ZHR Vol. 134(1970), 25. For details on the constitutional requirement of legal certainty please refer to section B.IV.1.a)bb)(1) of this chapter.
[1236] Wagner-von Papp, "Kriminalisierung von Kartellen," *WuW* Vol. 60, no. 3 (2010), 277.
[1237] Achenbach, in Frankfurter Kommentar zum Kartellrecht, ed. Jaeger, Pohlmann, and Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. § 81 GWB 2005 Ref. 22. Also Dannecker and Biermann, in Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor § 81, Ref. 24-25.
[1238] Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 226.
[1239] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 42. Also Wagner-von Papp, "Kriminalisierung von Kartellen," *WuW* Vol. 60, no. 3 (2010), 278.

negative impact on existing leniency programs,[1240] inefficient efforts to conceal criminal offences, and a deteriorated relationship between cartel authorities and firms,[1241] which interferes with the consulting function of the authorities.[1242] Eventually, the efficiency of criminal proceedings in manipulation cases is highly questionable due to the huge workload for the public prosecutors, opposed to a limited capacity of the departments. Such state of affairs might result to terminations of antitrust proceedings according to Sec. 153a StPO.[1243] Efficiency is further reduced by the huge cost resulting from the high demands of the prosecutors´ capacity, the acquisition of solid evidence,[1244] and of course the cost from imprisonment itself to society[1245], which does not outweigh the benefit from increased deterrence.

(5) Conclusion

The experience in the field of capital market law, especially having regard to the low probability of punishment, indicates that the criminal law approach might not be the best-qualified tool in the fight of market manipulations. The emphasis on individual guilt in criminal law fails to solve structural problems of complex systems.[1246] Also, the above section showed that criminal sanctions come at a cost, both monetary and in the practical implementation.[1247] An argument of better suitability to protect competition may hence not be built on these findings.[1248]

As a consequence, the fines approach is preferable to criminal sanctions for market manipulations from both an economic and a legal viewpoint. This holds true for at least until all less costly administrative mechanisms have been tried to deter manipulations.[1249] The

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[1240] With regard to the experience in bid rigging cases refer to Alfred Dierlamm, "Die Verfolgung von Submissionsabsprachen nach GWB/OWiG und Strafrecht (§ 298 StGB)," *ZWeR* Vol. 11, no. 2 (2013).
[1241] Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 227.
[1242] Wagner-von Papp, "Kriminalisierung von Kartellen," *WuW* Vol. 60, no. 3 (2010), 279-281.
[1243] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 42.
[1244] Achenbach, in Frankfurter Kommentar zum Kartellrecht, ed. Jaeger, Pohlmann, and Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. § 81 GWB 2005 Ref. 25 and 27.
[1245] Polinsky and Shavell, "Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?," *International Review of Law and Economics* Vol. 13, no. 3 (1993), 241.
[1246] Ransiek, Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 323.
[1247] Achenbach, in Frankfurter Kommentar zum Kartellrecht, ed. Jaeger, Pohlmann, and Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. § 81 GWB 2005 Ref. 27.
[1248] Coming to a similar conclusion Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 229.
[1249] Paolo Buccirossi and Giancarlo Spagnolo, "Optimal Fines in the Era of Whistleblowers: Should Price Fixers Still Go To Prison?," *Lear Research Paper No. 05-01* Vol. (2005), 16.

next subsection will shortly examine another nonmonetary damage variable possibly introduced to deter manipulative behavior that is non-criminal. Thereafter, necessary amendments to the existing fines system will be discussed (section 2).[1250]

cc) Another nonmonetary damage variable d_{GD}: Debarment from the employment market (de lege ferenda)

"Criminal law is not the last available instrument to enforce otherwise ineffective rules." Due to the emphasis of individual guilt, it might even be too poorly qualified to offer sufficient protection against manipulations of a complex system, as has been shown by the past section.[1251] Therefore, deterrence might be reached more effectively using non-criminal sanctions.

Disqualification of company directors as a punishment for competition infringements might be an alternative sanction to criminal sentences that still influences the individuals´ behavior directly,[1252] but does not suffer from the drawbacks shown for criminal sanctions.[1253] The UK law contains a disqualification of company directors for competition infringements, Sec. 9A Company Directors Disqualification Act 1986 as amended by Art. 204 of the Enterprise Act 2002.[1254] According to this norm, a director may be disqualified if two conditions are satisfied: A company of which the person is a director breaches competition law, and the court considers the director´s conduct to make him unfit to manage a company, Sec. 9A(1)-(3) Company Directors Disqualification Act 1986 as amended by Art. 204 of the Enterprise Act 2002. The director may be disqualified for a maximum of 15 years, Sec. 9A(9) Company Directors Disqualification Act 1986 as amended by Art. 204 of the Enterprise Act 2002.[1255]

[1250] Similar Achenbach, in Frankfurter Kommentar zum Kartellrecht, ed. Jaeger, Pohlmann, and Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. § 81 GWB 2005 Ref. 27.
[1251] Ransiek, Unternehmensstrafrecht: Strafrecht, Verfassungsrecht, Regelungsalternativen, ed. Samson and Tiedemann, Schriften zum gesamten Wirtschaftsstrafrecht (Heidelberg: C.F. Müller, 1996), 323.
[1252] Monopoly Commission, Hauptgutachten XX 2012/2013: Eine Wettbewerbsordnung für die Finanzmärkte (Baden-Baden: Nomos Verlagsgesellschaft, 2014), 107 Ref. 193.
[1253] Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 233.
[1254] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 17.
[1255] Holger Fleischer, "Kartellrechtsverstöße und Vorstandsrecht," *BB* Vol. 63, no. 21 (2008), 1074-1075.

In **German law, de lege lata,** Sec. 70 et sqq. StGB contains provisions that allow the imposition of a (criminal) suspension or even disbarment.[1256] The norm requires a conviction on account of market manipulation and the danger of re-offending. For first offenders, suspension is therefore practically out of question due to the principle of proportionality. In practice, the norm has been almost of no relevance.[1257]

Twele examines a prohibition of management activities based on the general clause in Sec. 35 GWB for firm executives having engaged in antitrust infringements.[1258] The norm requires unreliability from the part of the executive, as well as a need to protect the general public and the firm´s employees from further damage. However, the disqualification from running a business may only be the ultima ratio for cartel authorities after all other approaches have failed to keep the company from infringing the antitrust laws repeatedly.[1259] Furthermore, the disqualification is only lawful in the form of an order to the company requiring the dismissal of the unreliable board member.[1260] In conclusion, the requirements of the general clause are too high to provide for effective punishment of antitrust offenders and increase deterrence.

Schünemann proposes a temporary supervision of offending firms by a government agency comparable to the Treuhandanstalt that was reliable for the privatization of the formerly nationally owned enterprises of the German Democratic Republic. His argument is based upon the deterrent effect of this measure, especially through the related harm done to the reputation of the top management.[1261] This approach may, if at all, only be a solution de lege ferenda.

From an economic point of view, the approach is generally questionable, since the disqualification of top managers necessary results in the loss of highly qualified human capital to the employment market.[1262] The social cost from the measure might exceed the benefits it creates in antitrust deterrence.

[1256] Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 181. Refer also to Monopoly Commission, Sondergutachten 72 - Strafrechtliche Sanktionen bei Kartellverstößen, 2015, 49 Ref. 208.

[1257] Vogel, in *Wertpapierhandelsgesetz Kommentar*, ed. Assmann and Schneider, 6th ed. (Köln: O. Schmidt, 2012), § 38 Ref. 96.

[1258] Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 234.

[1259] Ibid, 244.

[1260] Ibid, 246.

[1261] Schünemann, "Die Strafbarkeit der juristischen Person aus deutscher und europäischer Sicht," in Bausteine des europäischen Wirtschaftsrechts: Madrid-Symposium für Klaus Tiedemann, ed. Schünemann and Gonzáles(Köln: Carl Heymanns Verlag KG, 1994), 290-291.

[1262] Holger Fleischer, "Bestellungshindernisse und Tätigkeitsverbote von Geschäftsleitern im Aktien-, Bank- und Kapitalmarktrecht," *WM* Vol. 54, no. 4 (2004), 164.

dd) Conclusion

The preceding sections on different legal approaches to introduce individual liability for market manipulations lead to one definite conclusion: From an economic point of view, a system relying exclusively on corporate liability is less efficient than one that combines corporate and individual sanctions to deter manipulations on competitive markets.[1263] From a legal perspective, renouncing sanctions addressed to individuals who commit antitrust infringements falls short of the objective of punishment.[1264] A combined system of company and individual sanctions is therefore required. The legal consequences of this finding will be discussed in the fifth chapter of this work.[1265]

With regard to the character of the individual sanctions, the analysis revealed the inappropriateness of criminal sanctions for the field of market manipulations. The fines approach, both towards companies and individuals, is the preferable instrument for efficient deterrence of manipulative market behavior.[1266] It needs however to be revised in some core questions, the most important thereof will be introduced in the following section 2.

c) Conclusion on changes with regard to government fines D_G

The preceding sections have shown various ways to change the current system of governmental fining for antitrust infringements. Most importantly, it has been shown that a new reference for the calculation of fines is needed (section a)) for two reasons. From a legal point of view, the current system of fining is in contrary to European and German constitutional law. From an economic point of view, today´s fines create inefficiently high incentives for antitrust compliance and leave no room for other effective tools of antitrust deterrence, e.g. private damages claims.

Also, the shift of the liability from firms to individuals has been discussed under various aspects, e.g. fining of corporate agents or criminal sanctions. It could be shown that a system of deterrence that applies both, company and individual fining, works more efficiently in the deterrence of market manipulations.

[1263] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 16.
[1264] Tiedemann, "Die strafrechtliche Vertreter- und Unternehmenshaftung," *NJW* Vol. 39, no. 30 (1986), 1843.
[1265] See section D. of the fifth chapter of this work.
[1266] Also Achenbach, in Frankfurter Kommentar zum Kartellrecht, ed. Jaeger, Pohlmann, and Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), Vorbem. § 81 GWB 2005 Ref. 27.

With the proposals for the optimization of the damage variable D_G at hand, the following section 2 now turns to necessary changes with regard to the probability of punishment p_p.

2. *Changes with regard to the probability of punishment p_P*

The above analysis has shown that approaches solely based on the cost of detection C_D do not succeed in deterring market manipulations – they do neither optimize deterrence from an economic point of view, nor are they feasible from the legal standpoint.[1267] Acting on the target function for optimal deterrence,

$$\Delta\Pi = p_P(e) \cdot C_D,$$

measures influencing the probability of punishment p_p remain hence to be discussed. Clearly, the increase of efforts for the punishment of manipulators results – ceteris paribus (especially the level of fines) – in a higher level of deterrence, as has been shown in the economic analysis at the beginning of this chapter:[1268]

$$\frac{\partial p_p}{\partial e} > 0 \text{ and therefore } \frac{\partial \Delta \pi}{\partial e} > 0.$$

This chapter will answer the question, which efforts e should preferably be increased to influence the probability of punishment. Since the probability of punishment depends on the detection rate of manipulations r_D and the rate of conviction r_C, which may both be increased by higher effort e,[1269]

$$p_p(e) = r_D \cdot r_C,$$

$$\text{where } r_D(e), r_C(e),$$

the following examination distinguishes between measures that target a higher rate of detection r_D of manipulations (e.g. leniency programs) and legal tools that focus on the rate of conviction r_C (e.g. the facilitation of proof for antitrust authorities).

[1267] Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 232.
[1268] Please refer to Sec. B.III of this chapter. See also Ulrich Schwalbe and Jan Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos, 2011), 602.
[1269] Gary S. Becker, "Crime and Punishment: An Economic Approach," *The Journal of Political Economy* Vol. 76, no. 2 (1968), 174.

Having regard to the **rate of detection r_D**, the following two measures will be discussed:

- The introduction of leniency programs for the case of market manipulations (a),[1270]
- combined with a system that rewards whistleblowers (b).

In sections c and d, approaches focusing on the **rate of conviction r_C** will be examined:

- An alternative approach to prove manipulations based on the firms´ profits (c),
- the shift of the burden of proof from the antitrust authorities to the suspected firms (d).

a) Leniency programs for the case of market manipulations

In order to sanction market manipulations, antitrust authorities need to find out about them in a first step. Since the infringers do self-evidently not communicate the manipulations openly,[1271] authorities may only rely on unusual market data as well as competitors´ or consumers complaints. These may however not create a sufficiently high rate of detection.[1272]

In cartel prosecution, the probability of detection could be raised considerably with the introduction of so-called leniency programs:[1273] The European Commission[1274] and national

[1270] Even though these programs also increase the rate of conviction r_C, they are discussed in section a. See e.g. Buccirossi and Spagnolo, "Optimal Fines in the Era of Whistleblowers: Should Price Fixers Still Go To Prison?," Lear Research Paper No. 05-01 Vol. (2005), 16.
[1271] Mario Mathias Ohle and Stephan Albrecht, "Die neue Bonusregelung des Bundeskartellamtes in Kartellsachen," *wrp* Vol. 21, no. 7 (2006), 866.
[1272] See the examination with regard to the probability of punishment in section B.III.1. of this chapter. With reference to Peter G. Bryant and E. Woodrow Eckard, "Price Fixing: The Probability of Getting Caught," *The Review of Economics and Statistics* Vol. 73, no. 3 (1991), 531. Also Emmanuel Combe, Constance Monnier, and Renaud Legal, "Cartels: The Probability of Getting Caught in the European Union," *BEER Research Paper N° 12* Vol. (2008), 17. John M. Connor and C. Gustav Helmers, "Statistics on Modern Private International Cartels, 1990-2005," *American Antitrust Institute Working Paper N° 07-01* Vol. (2007), 38.
[1273] Felix Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 474. With reference to Wouter P.J. Wils, "Optimal Antitrust Fines: Theory and Practice," *World Competition* Vol. 29, no. 2 (2006), 23. Refer also to *Kapp, Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 219. Refer also to the European Commission´s Notice on the leniency program: European Commission, Notice on Immunity from fines and reduction of fines in cartel cases, 2006 Ref. 3. See also Andreas Klees, "Zu viel Rechtssicherheit für Unternehmen durch die neue Kronzeugenmitteilung in europäischen Kartellverfahren?," *WuW* Vol. 52, no. 11 (2002), 1057.
[1274] European Commission, Notice on Immunity from fines and reduction of fines in cartel cases, 2006.

antitrust authorities[1275] offer discounts on fines or even a reduction of fines to zero in exchange for a firm blowing the whistle on a cartel not yet known to the prosecutors.[1276]

So far, the leniency program does only apply to cartel agreements. The abuse of a dominant market position e.g. through manipulations is not covered by the existing rules.[1277] This section will examine the suitability of this concept for the case of market manipulations, introducing the legal framework in subsection (aa) and discussing the transferability of the leniency concept to cases of abuse in subsection (bb). Section cc) concludes.

aa) The legal framework of leniency programs

Both the European and German leniency programs were inspired by the US department of justice antitrust division´s leniency policy, which is based upon insights from game theory.[1278] The situation for cartel infringers is comparable to the Prisoner´s Dilemma Game: The optimal choice (e.g. Nash equilibrium) for any player is to report the antitrust offense in order to avoid a sanction (e.g. fine). This setup destabilizes cartel agreements and increases the number of reported infringements, if the following requirements are met:

- The sanction firms face is considerably high,
- the program and the procedures are transparent in order to allow firms a precise assessment of their risks when filing their leniency application, and
- an atmosphere of suspicion is created between cartel members through the automatic granting of leniency to the first applicant.[1279]

The legal tool the **European Commission´s** leniency program employs is the creation of trust for firms by way of the publication of its notice on immunity: The Commission is binding itself with regard to its leniency offer, thereby having to respect the prohibition of

[1275] In Germany, the Federal Cartel Office published its leniency notice in 2006: Federal Cartel Office, Notice N° 9/2006 of the Bundeskartellamt on the immunity from and reduction of fines in cartel cases - Leniency Programme -, 2006, 9/2006.
[1276] Hans-Joachim Hellmann, "Die Bonusregelung des BKartA im Lichte der Kommissionspraxis zur Kronzeugenmitteilung," *EuZW* Vol. 11, no. 24 (2000), 741.
[1277] Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 479.
[1278] Till Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," ibid Vol. 55, no. 6 (2005), 606-607.
[1279] Felix Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 184. See also Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," WuW Vol. 55, no. 6 (2005), 607.

arbitrary action and the protection of legitimate expectations.[1280] The Commission´s competence to issue the notice on immunity is based upon its comprehensive administrative authority in the field of competition law. Especially in cases that leave room for discretion, legal certainty increases with the publication of internal rules and standards for the practical application of the norm. The Commission´s leniency notice touches the question of fining for antitrust infringements, which is in the authority´s discretion (Art. 23(2) of Regulation N° 1/2003). Therefore, European law covers the publication of the leniency notice.[1281]

The Commission notice differentiates between the immunity from fines and the reduction of the fine, depending on the applicant´s rank and the quality of proof he is offering.[1282]

An applicant qualifies for **immunity** from the fine if he fulfills the following requirements (Section II. of the Commission notice):

- The undertaking disclosing its participation in an alleged cartel is the first to report the cartel agreement and submit evidence on it.
- The evidence enables the Commission to either carry out a targeted inspection in connection with the alleged cartel, (8)(a), or find an infringement of Article 81 EC (now Art. 101 TFEU) in connection with the alleged cartel, (8)(b).
- The Commission did not already have sufficient evidence to carry out an inspection or find an infringement of Art. 81 EC by the time of the submission, (10) and (11).
- The undertaking is genuinely, fully, continuously and expeditiously cooperating throughout the Commission´s procedure (12)(a).
- The undertaking ended its involvement in the alleged cartel immediately after submitting its application (12)(b).
- The undertaking has not destroyed, falsified or concealed evidence nor disclosed the fact or the content of the application except to other competition authorities (12)(c).

The core criterion for immunity is therefore the disclosure of proof for a cartel so far unknown to the Commission (alternative 1) *or* evidence allowing the proof of a cartel that

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[1280] Andreas Klees, "Zu viel Rechtssicherheit für Unternehmen durch die neue Kronzeugenmitteilung in europäischen Kartellverfahren?," ibid Vol. 52, no. 11 (2002), 1057.
[1281] Philipp Hetzel, *Kronzeugenregelungen im Kartellrecht* (Baden-Baden: Nomos Verlagsgesellschaft, 2004), 160 et sqq. See also Birgit Häberle, *Die Kronzeugenmitteilung der Europäischen Kommission im EG-Kartellrecht* (Baden-Baden: Nomos Verlagsgesellschaft, 2005), 99 and 118.
[1282] Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 607.

was known to the Commission before the application but could not be proved so far (alternative 2).[1283] In case the requirements are met, the fine has to be reduced to zero, the Commission has no more discretionary power.[1284] Furthermore, firms are granted confidentiality with regard to parallel proceedings of other competition authorities, as well as private damages claims.[1285]

Besides immunity, the **reduction of the fine** may be granted (23) if the following requirements are met (Section III. of the Commission notice):

- The undertaking provides the Commission with evidence representing significant added value with respect to the evidence already in the Commission´s possession (24).
- The undertaking is genuinely, fully, continuously and expeditiously cooperating throughout the Commission´s procedure (12)(a).
- The undertaking ended its involvement in the alleged cartel immediately after submitting its application (12)(b).
- The undertaking has not destroyed, falsified or concealed evidence nor disclosed the fact or the content of the application except to other competition authorities (12)(c).

If the criteria are met, the firm is eligible for a reduction of 30-50 percent of the fine (first undertaking to provide significant added value), 20-30 percent of the fine (second undertaking to provide significant added value) or up to 20 percent (any subsequent undertaking to provide significant added value), (26). The exact amount of the reduction is determined depending on its quality and the time of submission.[1286]

The **German FCO** is following a similar approach: Its leniency notice differentiates between immunity (Section B) and the reduction of the fine (Section C).[1287] Its legal nature resembles the Commission´s notice as a way to disclose its administrative practice to firms and bind itself to certain administrative standards in order to provide reliability for

[1283] Andreas Klees, "Zu viel Rechtssicherheit für Unternehmen durch die neue Kronzeugenmitteilung in europäischen Kartellverfahren?," ibid Vol. 52, no. 11 (2002), 1058.
[1284] Ibid, 1062.
[1285] Ibid, 1063.
[1286] Ibid, 1064.
[1287] Ohle and Albrecht, "Die neue Bonusregelung des Bundeskartellamtes in Kartellsachen," *wrp* Vol. 21, no. 7 (2006), 867. See also Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 607.

cartel members willing to return to legality.[1288] The requirement of a legal basis was controversial in the past,[1289] but has been resolved with the introduction of Sec. 81(7) GWB. This paragraph empowers the FCO to the introduction of general administrative principles on the exercise of its discretion with regard to the imposition of fines,[1290] which has been realized with the 2006 FCO notice on the immunity from and reduction of fines in cartel cases (leniency program).

The requirements for **immunity** from the fine follow the European example: Firms need to disclose proof for a cartel so far unknown to the authority (Ref. 3) *or* evidence allowing the proof of a cartel that was known to the authority before the application but could not be proved so far (Ref. 4).[1291] In addition to the European requirements, a firm is not eligible for immunity under German law if it was the sole leader of the cartel or has forced other firms into the agreement (Ref. 3/4, N° 3).[1292]

In case the requirements are met, the first applicant´s fine is zero. Other cartel members may receive **reductions of their fines** of up to 50 percent according to section C of the FCO notice for the submission of evidence that allows the proof of the infringement and continuous cooperation with the authority.[1293]

bb) Transferability of the leniency approach to abuse cases

The leniency programs of the European Commission[1294] and the German FCO described above only cover hard-core cartels to date.[1295] There is no comparable incentive scheme for abuse cases in any of the two legal systems. However, under European law

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[1288] Martin Klusmann, in *Handbuch des Kartellrechts*, ed. Gerhard Wiedemann, 2nd ed. (München: Beck, 2008), Sec. 57 Ref. 93d. See also Ohle and Albrecht, "Die neue Bonusregelung des Bundeskartellamtes in Kartellsachen," *wrp* Vol. 21, no. 7 (2006), 868.

[1289] For a comprehensive presentation of the argument see Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 607 et sqq.

[1290] Ohle and Albrecht, "Die neue Bonusregelung des Bundeskartellamtes in Kartellsachen," *wrp* Vol. 21, no. 7 (2006), 870. Refer also to Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 181.

[1291] Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 185, 186. Also Ohle and Albrecht, "Die neue Bonusregelung des Bundeskartellamtes in Kartellsachen," *wrp* Vol. 21, no. 7 (2006), 870. See also Edgar Panizza, "Ausgewählte Probleme der Bonusregelung des Bundeskartellamtes vom 7. März 2006," *ZWeR* Vol. 8, no. 1 (2008), 64, 65.

[1292] Felix Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," ibid Vol. 5, no. 2 (2006), 186.

[1293] Ibid, 187. See also Ohle and Albrecht, "Die neue Bonusregelung des Bundeskartellamtes in Kartellsachen," *wrp* Vol. 21, no. 7 (2006), 871.

[1294] Häberle, *Die Kronzeugenmitteilung der Europäischen Kommission im EG-Kartellrecht* (Baden-Baden: Nomos Verlagsgesellschaft, 2005), 60. See also Hetzel, Kronzeugenregelungen im Kartellrecht (Baden-Baden: Nomos Verlagsgesellschaft, 2004), 58.

[1295] Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 184. See also Edgar Panizza, "Ausgewählte Probleme der Bonusregelung des Bundeskartellamtes vom 7. März 2006," ibid Vol. 8, no. 1 (2008), 63.

firms may be granted reductions of fines for antitrust infringements not covered by the leniency program for active cooperation with the Commission.[1296] Other than under the leniency notice, firms have no legal right to these reductions[1297] – one of the core criteria for a successful leniency policy, transparency and foreseeability, is therefore not fulfilled.[1298]

With regard to the increase of both – the rate of detection (r_D) and the rate of conviction (r_C) – by a successful leniency policy[1299] it remains to be discussed whether the scope of application of the above describes leniency programs should be extended in order to cover cases of abuse of a dominant market position as well. Especially since studies show that rewarding whistleblowers lowers the minimum fines C_D with deterrent effects fall to extremely low levels (e.g. 10 percent of the optimal Beckerian fine).[1300] Hence, the problem of excessive and therefore unlawful fines would be solved, while the balance of the deterrence equation is kept. Furthermore, leniency brings about further deterrence effects like an "improved prosecution effect" and an increase in "the risk of being undercut and denounced by other firms",[1301] which makes it a highly effective tool in antitrust enforcement and even more attractive for the deterrence of manipulation cases.

However, the problem that market manipulations, other than cartels, are no collaborative offense, needs to be handled, because the classical leniency approach based on the prisoner´s dilemma game only works for those collaborative infringements of antitrust.[1302] This question will be handled in section b) following this part.

[1296] Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 479. With reference to Damien Geradin and David Henry, "The EC Fining Policy for Violations of Competition Law: An Empirical Review of the Commission Decisional Practice and the Community Courts' Judgments," *GCLC Working Paper No. 2/05* Vol. (2005), 40.

[1297] Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 479. With reference to *HFB Holding für Fernwärmetechnik Beteiligungsgesellschaft mbH & Co. KG and Others v. Commission of the European Communities*, Case T-9/99, European Court Reports 2002, II-1530 Ref. 608 et sqq. (European Court of First Instance 2002).

[1298] Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 607.

[1299] Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 45-46. See also Buccirossi and Spagnolo, "Optimal Fines in the Era of Whistleblowers: Should Price Fixers Still Go To Prison?," Lear Research Paper No. 05-01 Vol. (2005), 16.

[1300] Buccirossi and Spagnolo, "Optimal Fines in the Era of Whistleblowers: Should Price Fixers Still Go To Prison?," *Lear Research Paper* No. 05-01 Vol. (2005), 17.

[1301] Ibid, 22.

[1302] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 603.

(1) The requirement of a crisis of investigation

In the antitrust literature, a **crisis of investigation** has been required for the justification of leniency programs.[1303] Thus, there must be a deficit in detection with regard to the offense in question – and the introduction of a leniency program must be qualified to resolve it.[1304] Having regard to antitrust offenses in the field of abuse of a dominant market position, *Engelsing* denies the existence of a crisis of investigation due to the lack of secrecy as compared to cartel agreements.[1305] His argument is yet self-contradictory: In the case of a cartel already known to the FCO, but not yet proved sufficiently to issue administrative orders imposing fines to the wrongdoers (Section B, Ref. 4 of the FCO leniency notice), he sees a persistent crisis of investigation.[1306]

The differentiation between cartel agreements known to the FCO (and therefore no longer operating secretly), but not proved due to a lack of evidence and manipulation cases not happening secretly and hard to prove due to a lack of evidence does not become clear. This is because the situation for investigators is the same in both cases: They possess information about an infringement that is however not sufficient to result in a conviction of the infringers. Also, the desired "greyhound race" by cartel members to the FCO is not likely in any of the two constellations just named,[1307] which does make the differentiation even more coincidental.

Both, detection *and* investigation of a cartel require information from the infringers.[1308] In the case of manipulations, this remains true at least for the investigation part. With regard to the detection part, this is a question of the individual case.

However, today´s market manipulations are not committed in any obvious way. The example of market manipulations at the energy exchange illustrates the problem paradigmatically: Both the European Commission and the FCO have launched huge investigations running complex simulations in order to detect the manipulation strategies – without yielding any evidence that would have been sufficient to lead to a conviction of the manipulators in the end.[1309] The same is true for the European case: The Commission sector inquiry

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[1303] Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 608. See also Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 180.

[1304] Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 608.

[1305] Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 185.

[1306] Ibid, 186.

[1307] With regard to the cartel case see Edgar Panizza, "Ausgewählte Probleme der Bonusregelung des Bundeskartellamtes vom 7. März 2006," ibid Vol. 8, no. 1 (2008), 69.

[1308] Hetzel, *Kronzeugenregelungen im Kartellrecht* (Baden-Baden: Nomos Verlagsgesellschaft, 2004), 31.

[1309] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09, 157-158. See also Dörte Fouquet, Angela Seidenspinner, and Thomas Füller, "Kurzgutachten Wettbewerbs- und energiepolitische Lücken der Sektoruntersuchung Stromerzeugung, Stromgroßhandel des Bundeskartellamtes vom Januar 2011,"(2011), 6. Also Peter Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel

from 2007 found substantial scope for excessive pricing at EEX,[1310] but did not succeed in providing substantial evidence for actual manipulations that could have stood up in court.[1311]

As a result, a crisis of investigation may not be negated. Even if, due to the lack of secrecy of abuse of market dominance, automatic and full immunity is not considered the appropriate offer to infringers, a leniency policy might provide for immunity as a general rule (intended discretion)[1312] or offer reductions of fines in exchange for the delivery of evidence and cooperation with the authority.

(2) Comparable regulations in tax law

It needs yet a slightly different design because the Prisoner´s Dilemma situation that destabilizes cartel agreements and speeds up the rush to the authority may not be found in abuse cases. Still, a comparable tool has been adopted in a similar constellation in the recent past: In German tax law, tax dodgers may benefit from a tax amnesty for voluntary declarations and avoid fining if they fulfill the requirements of Sec. 371 German Fiscal Code (Abgabenordnung, AO).[1313] Sec. 371(1) German Fiscal Code reads[1314]:

> *"Whoever, in relation to all tax crimes for a type of tax that have not become time-barred, fully corrects the incorrect particulars held by the revenue authority, supplements the incomplete particulars held by the revenue authority or furnishes the revenue authority with the previously omitted particulars shall not be punished pursuant to section 370 on account of these tax crimes."*

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des Bundeskartellamtes: Ausgezeichnete Analyse, unzureichende Konsequenzen," *ZNER* Vol. 15, no. 2 (2011), 118.

[1310] European Commission, Commission Staff Working Document, 2006, COM(2006) 851 final, 146 Ref. 436 and p. 150.

[1311] Ibid, 147 Ref. 443, 311 Ref. 998 and 149 Ref. 445.

[1312] Engelsing refers to the FCO leniency policy for cartels already known to the authority, but not yet proved (Section B Ref. 4 Leniency Notice): Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 186.

[1313] Markus Jäger, in *Abgabenordnung: Kommentar*, ed. Franz Klein, 12th ed. (München: C.H.Beck, 2014), Sec. 371 Ref. 1.

[1314] The translation was provided by the Language Service of the Federal Ministry of Finance.

The norm serves two purposes: It shall find sources for taxation hidden so far[1315] *and* incentivize tax dodgers to return to legality.[1316] Therefore, the legislator may have an interest to offer a favorable treatment in exchange for cooperation.

Also in the field of antitrust, this interest has already been named: With regard to hard-core cartels, the Commission reasons that the interest of consumers and citizens in the detection and punishment of cartels might outweigh the interest in fining the infringers who cooperate with the authorities.[1317] The transfer of the tax authorities approach to manipulation cases is therefore a promising step forward in the process of detecting and proving market manipulations in the interest of society as a whole.

(3) Conclusion: Leniency for abuse cases is feasible de lege lata

Hence, the establishment of a leniency policy that also covers abuse cases is a well-suited tool to uncover and punish manipulations of the energy exchange. In addition to the advantages in deterrence, the introduction of leniency has several upsides from a legal point of view: First, the intransparent reward policy of the Commission so far decided on a case by case basis[1318] would be replaced by a reliable and transparent set of rules that is in line with the rule of law.[1319] Furthermore, the approach has considerable advantages with regard to the practical implementation: A formal enabling provision is not required since the leniency policy is an administrative procedure intended to guide the authorities discretion with regard to the prosecution of infringements according to Sec. 47(1) OWiG.[1320] Besides, the general wording of the enabling provision for the current leniency policy in Sec. 81(7) GWB leaves room for the introduction of general administrative procedures not only for hard-core cartel cases but also any other offense subject to fining – including the administrative offenses targeting the abuse of market power according to Sec. 81(2) GWB.

[1315] See for example *Unnamed Decision*, Case 3 StR 10/87, BGHSt 35, 36 (German Federal Court of Justice 1987).
[1316] Jäger, in *Abgabenordnung: Kommentar*, ed. Klein, 12th ed. (München: C.H.Beck, 2014), Sec. 371 Ref. 2. With reference to *Unnamed Decision*, Case 1 StR 577/09, BGHSt 55, 180 (German Federal Court of Justice 2010).
[1317] European Commission, Notice on Immunity from fines and reduction of fines in cartel cases, 2006, Recital 3.
[1318] Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 479. With reference to Geradin and Henry, "The EC Fining Policy for Violations of Competition Law: An Empirical Review of the Commission Decisional Practice and the Community Courts' Judgments," *GCLC Working Paper* No. 2/05 Vol. (2005), 40.
[1319] Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 609.
[1320] Ibid. See also Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 181. The lawfulness of a leniency policy to guide discretion has also been approved by the Higher Regional Court Düsseldorf: *Papiergroßhandel*, Case VI-Kart 3/05 (OWi) , Kart 3/05 (OWi), WuW/E DE-R, 1733 Ref. 166 et sqq. (Higher Regional Court Düsseldorf 2006).

Having regard to the immense costs e.g. the sector inquiry caused and the fact that the authority´s resources were bound for years,[1321] the interest in detection and actual interdiction of manipulations with the help of leniency might outweigh the interest in cashing (the full amount of) the fine.[1322]

cc) Design of a leniency policy for abuse cases

The concrete design of the leniency program under **German law** follows the example of the existing program for hard-core cartels:

- The requirements with regard to the delivery of proof and cooperation need to be described transparently and
- the obligations of the principal witness before immunity is granted need to be as limited as possible in order to guarantee fairness of the procedures.[1323]

Immunity from a fine for the abuse of a dominant market position in German law could e.g. be granted following the example of Section B Ref. 4 of the FCO leniency notice:

> *The Federal Cartel Office will as a general rule grant immunity from a fine for the abuse of a dominant market position, if*
>
> 1. *the infringer is the first to cooperate with the authority before it has sufficient evidence to prove the infringement and*
> 2. *the infringer enables the Federal Cartel Office by way of oral and written information and – if available – pieces of evidence to prove the infringement and*
> 3. *the infringer is cooperating with the authority absolutely and continuously.*

In addition, the reduction of a fine for abuse cases may be granted following the example of the current Section C of the FCO leniency notice:

[1321] Hetzel, *Kronzeugenregelungen im Kartellrecht* (Baden-Baden: Nomos Verlagsgesellschaft, 2004), 59.
[1322] The European Commission names this fact in the recitals for the introduction of leniency for hard-core cartels. Refer to European Commission, Notice on Immunity from fines and reduction of fines in cartel cases, 2006, Recital 3.
[1323] Wiesner, "Zur Rechtmäßigkeit einer "Bonusregelung" im Kartellrecht," *WuW* Vol. 55, no. 6 (2005), 609.

In favor of an infringer who does not fulfill the requirements for immunity from the fine according to the previous section, the Federal Cartel Office may reduce the fine by up to 50 percent, if

1. *the infringer enables the Federal Cartel Office by way of oral and written information and – if available – pieces of evidence to prove the infringement and*

2. *the infringer is cooperating with the authority fully and continuously.*

The detailed obligations for cooperation (Section D of the current FCO leniency notice) and all other rules on the application process (Section E), confidentiality (Section F) and others would have to be the same for abuse cases.

Today´s **European Commission leniency program** also differentiates between the disclosure of evidence on cartels so far unknown to the Commission (alternative 1) and evidence allowing the proof of a cartel that was known to the Commission before the application but could not be proved so far (alternative 2).[1324] Therefore, a future leniency policy for abuse cases could be based on the qualification requirements of the latter alternative:

- *The undertaking disclosing abuse of a dominant market position enables the Commission to find an infringement of Article 102 TFEU.*

- *The Commission did not already have sufficient evidence to find an infringement of Art. 102 TFEU by the time of the submission.*

- *The undertaking is genuinely, fully, continuously and expeditiously cooperating throughout the Commission´s procedure.*

- *The undertaking ended its abusive practice immediately after submitting its application.*

- *The undertaking has not destroyed, falsified or concealed evidence nor disclosed the fact or the content of the application except to other competition authorizes.*

[1324] Andreas Klees, "Zu viel Rechtssicherheit für Unternehmen durch die neue Kronzeugenmitteilung in europäischen Kartellverfahren?," ibid Vol. 52, no. 11 (2002), 1058.

dd) Conclusion

The extension of the scope of today´s leniency programs in European and German national law to cases of abuse of a dominant market position is a legal tool well suited to increase the probability of punishment p_P, because it influences both the rate of detection r_D of forbidden abusive market behavior and the rate of conviction r_C that today suffers from a considerable lack of proof on the side of the antitrust authorities. By the use of leniency, the equation for optimal deterrence of market manipulations introduced at the beginning,

$$\Delta\Pi = p_P(e) \cdot C_D,$$

is balanced with much lower values for the cost of detection (which is economically preferable and from a legal point of view compulsory)[1325].

Besides its efficiency and the accordance with the rule of law, the leniency approach has the practical advantage of immediate effectiveness: Antitrust authorities may adopt new administrative guidelines on their leniency policy independently and without going through the complete legislative process that may take years for a change.

Thus, a leniency policy for cases of abuse of market power can and should be adopted **de lege lata** to increase deterrence of market manipulations. The sole implementation of leniency in manipulation cases does however entail a problem: Due to the nature of manipulations being individual behavior of a firm as compared to coordinative acts by several firms in cartel cases, leniency for manipulations lacks the urge to disclose the infringement to the antitrust authorities. While firms have to fear the disclosure of the infringement by a competitor in cartel cases, they do not face the same threat in manipulation cases where they are committing the infringement individually. This "prisoner´s dilemma" situation may however be created by the use of a complementary legal tool introduced in the following section b: The reward of whistleblowers.

b) The reward of whistleblowers

Closely connected to the idea of leniency is the concept of the whistleblower: People having inside information about an antitrust infringement, but are not or only marginally involved in it shall be rewarded for information about the infringement or proof delivered

[1325] Please refer to sections B.II. and B.IV.1. of this chapter.

to the antitrust authorities.[1326] Such approaches increase the probability of detection and prosecution in antitrust cases.[1327] Furthermore, the approach solves a problem that a leniency policy for abuse cases faces: Since abuse of a dominant market position is not a collaborative offense, other than e.g. cartels are, the leniency approach may not work effectively due to the absence of a prisoner´s dilemma situation for the infringers.[1328] If, however, leniency is combined with a reward for whistleblowers, this prisoner´s dilemma situation is simulated and makes hence leniency work in abuse cases.

Several alternatives for the design of whistleblower programs are possible, the most important ones are:

- The extension of existing leniency programs by adding a financial premium for information about a cartel by *cartel insiders,* or
- a separate reward system for information about antitrust infringements by *cartel outsiders*.[1329]

This section will show advantages and disadvantages of the two reward systems named from an economic point of view and subsequently discuss options for the implementation in the legal system.

aa) The extension of leniency: Financial premiums for cartel insiders

In addition to the existing leniency programs by the antitrust authorities, some authors have proposed to reward principal witnesses in antitrust cases not only with immunity from fines common in most modern leniency programs, but also offer them a financial incentive for their information (negative fine).[1330] *Spagnolo* argues that a reward equaling the sum of all fines paid by his former cartel members for the first party that reports the cartel to the authorities would lead to the first best solution: Complete and costless deterrence of cartels. The reason is straightforward: No cartel agreement would be sustainable in this model.[1331]

[1326] Eckart Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 310.
[1327] Ibid, 326.
[1328] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 603.
[1329] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 314-315.
[1330] Giancarlo Spagnolo, "Divide et Impera: Optimal Leniency Programs," *Working Paper* Vol. (2005), 5, 18.
[1331] Ibid, 5.

However, this argument is only valuable for collusive agreements that may be destabilized through outside incentives. In manipulation cases, there is no collusion between the manipulators. Rather, a single company decides to exploit a manipulative scope. Besides, a financial reward for the report about own illegal practices causes ethical concerns and political opposition because it appears as a reward of illegal behavior.[1332]

With regard to the deterrence of market manipulations at the energy exchange, additional financial premiums for insider reporters are therefore no promising approach.

bb) A separate reward system for information by cartel outsiders

A more promising approach for the increase of the probability of punishment in manipulation cases might be the reward of informants not themselves involved in the infringement, but possessing information about the case due to their position in the firm or its environment.[1333] Those may namely be employees confronted with antitrust infringements in the firm who have denied their participation in the illegal practices, employees in the administrative departments (e.g. controlling, accounting), network administrators, employees of security companies or even cleaning staff.[1334]

This group of employees may possess valuable insider information about antitrust infringements including manipulations committed by their employer. However, it will often not report this information to the authorities from pure intrinsic motivation[1335] due to serious personal disadvantages from whistleblowing like the loss of their job and the destruction of career opportunities in their sector, as well as the need for expensive legal advice.[1336] A **financial reward that compensates them for the disadvantages suffered** and leaves them with a bonus for their efforts will incentivize a number of these insiders to blow the whistle and help detect antitrust infringements.

[1332] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 314.

[1333] For similar problems in the field of capital market law empirical data on whistleblowing may be found in Holger Fleischer and Ulrich Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 365. With regard to cartels refer to Monopoly Commission, *Hauptgutachten XX 2012/2013: Eine Wettbewerbsordnung für die Finanzmärkte* (Baden-Baden: Nomos Verlagsgesellschaft, 2014), 108 Ref. 199.

[1334] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 315.

[1335] Controversial. With regard to negative effects of financial rewards due to the so-called crowding-out effect see ibid, Ref. 93.

[1336] Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 361. See also Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 340.

(1) Economic theory of whistleblowing

This effect is due to the following economic considerations: Firm officials involved in antitrust infringements, namely manipulations of the energy market in the focus of this work, may never be sure who of the firm´s employees is aware of the illegal behavior. Due to the external (financial) incentive for employees to report the infringement to the authorities, the infringers need to bribe the employees in order to buy their silence. In fact, every single employee suspicious of knowledge about the infringement needs to be paid by the firm, even if the governmental whistleblower program only rewards the first reporter. Since the infringers neither know who in the firm is aware of the illegal practice nor whether the employees bribed won´t still report to the authority, **the illegal practice does not appear attractive in the long run**. Either will it be detected due to whistleblowing in the short run or the payments to buy silence will become costlier than the benefits from the infringement in the long run, since they need to be repeated in every new period.[1337]

Furthermore, whistleblower programs have an **intensifying side effect on the existing leniency programs**: Firm officials learning about an antitrust infringement in their company will feel an urge to report it to the authorities in order to be accepted as a leniency applicant before a whistleblower may report it.[1338] Hence, the addition of leniency programs that also cover abuse cases[1339] by rewards for non-involved whistleblowers creates a situation comparable to the Prisoner´s Dilemma game also in non-cartel cases: While in a cartel, all participants are incentivized to report to the authorities first in order to receive immunity from the fine while everybody else pays, infringers engaging in market manipulations are incentivized to report first because they have to fear that otherwise firm insiders will report using the whistleblower reward system. This makes whistleblower systems for *outsiders* in combination with specific leniency programs an **optimal tool for detection and deterrence of manipulations of the market according to Sec. 19(2) N° 2 GWB**.

Economic theory suggests that whistleblowing is the **most cost-effective way** to gather information about infringements of the law and hence increase the probability of detection.[1340] While it seems costly to reward a single whistleblower with up to one million Euro,

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[1337] For the case of cartels see "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 316-317.
[1338] Ibid, 317.
[1339] Refer to the proposal in section B.IV.2.a)cc) in this chapter.
[1340] Jennifer Arlen, "The Potentially Perverse Effects of Corporate Criminal Liability," *The Journal of Legal Studies* Vol. 2, no. 2 (1994), 835. Refer also to Robert Howse and Ronald J Daniels, "Rewarding Whistleblowers: The Costs and Benefits of an Incentive-Based Compliance Strategy," in *Corporate Decision-Making in Canada*, ed. Ronald J. Daniels and Randall Morck(Calgary: Calgary University Press, 1995), 529. With reference to the European Commission´s argument Holger Fleischer and Schmolke, "Finanzielle Anreize

the reward may be financed from the additional fines paid by the infringers. In cases where this cost-benefit balance is doubtful, the authority may prioritize cases and only engage in further examinations where the expected benefit at least equals the cost that is caused due to the examination of the case (e.g. opportunity cost for the capacity of the staff).[1341]

(2) Disadvantages of the whistleblower approach

However, there are also **a number of potential disadvantages** to the whistleblower approach that need to be weighed against the above-named benefits. First, there is a danger of over deterrence that may lead to the elimination of pro-competitive practices on the side of the firms due to the danger of a wrong evaluation of the behavior with all of its consequences. Also, inefficiently prohibitive cost might result from efforts to hide antitrust infringements in the firm from potential whistleblowers. Finally, there is also a danger that managers of firms involved are misusing the whistleblowing program.[1342] These problems may however be managed with an appropriate design of the whistleblower system[1343] that will be discussed in the following section cc). Remaining moral concerns referring to the creation of a culture of denunciation[1344] or infringements of confidentiality obligations (e.g. Sec. 17(1) UWG)[1345] may not overcome the fact that the whistleblower reports *criminal behavior* with far-reaching damage caused to the economy.

(3) Conclusion

From an economic point of view, the introduction of a reward system for whistleblowers is hence an effective tool to increase the probability of detection also in manipulation cases and reach an efficient level of deterrence.

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für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 363.

[1341] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 319-320.

[1342] Ibid, 320-326.

[1343] Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 364. Also Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 326.

[1344] Monopoly Commission, *Hauptgutachten XX 2012/2013: Eine Wettbewerbsordnung für die Finanzmärkte* (Baden-Baden: Nomos Verlagsgesellschaft, 2014), 109 Ref. 203.

[1345] Ibid, 110 Ref. 206.

cc) Implementation in the legal system

The German FCO has set up a standardized whistleblower system in June 2012.[1346] However, informants are not offered payment for their information today – which will not result in a high number of tips, as the above pictured analysis of risks for informants suggests.[1347] A legislative proposal from 2012 did also not contain financial incentives for whistleblowers – and did not pass in German Bundestag.[1348] In the field of capital market law, the European Commission has proposed the introduction of a whistleblower system with financial incentives in conformity with national law of the Member States in Art. 32(4) of its 2014 Market Abuse Regulation (MAR).[1349] The MAR does however not cover commodities traded in spot markets like the EEX power contracts (except from Art. 12 and 15 MAR, see Art. 2(2) MAR). By now, the Commission does not further pursue a Union-wide harmonized protection of whistleblowers.[1350] It has, however, in March 2017 introduced a whistleblower system for cartel cases. Yet, this system does – as the German FCO one – not offer a reward to informants.[1351] This section will therefore discuss, whether a whistleblowing program may be implemented **de lege lata** (subsection (1)) or needs to be installed **de lege ferenda**.

(1) Implementation de lege lata

De lege lata, a legal basis for the implementation of a whistleblower program may not be found. In particular, it may not be based on Sec. 81(7) GWB and Sec. 47(1) OWiG that only empower the antitrust authority to reductions of fines for infringers, but not for third parties offering information.[1352]

However, there might be an approach to establish whistleblowing de lege lata: Individual negotiations between informants and the FCO about the "price" of the information offered.

[1346] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 312. Also refer to the FCO information on http://www.bundeskartellamt.de/DE/Kartellverbot/Anonyme_Hinweise/anonymehinweise_artikel.html.

[1347] See also Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 361.

[1348] Monopoly Commission, *Hauptgutachten XX 2012/2013: Eine Wettbewerbsordnung für die Finanzmärkte* (Baden-Baden: Nomos Verlagsgesellschaft, 2014), 109 Ref. 202.

[1349] European Parliament and Council. *Regulation N° 596/2014 on market abuse (market abuse regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC*. EU Official Journal N° L 173, p. 1-61. Before Art. 29(2) of European Commission, Proposal for a Regulation of the European Parliament and of the Council on insider dealing and market manipulation (market abuse), 2011, COM(2011) 651 final.

[1350] Monopoly Commission, *Hauptgutachten XX 2012/2013: Eine Wettbewerbsordnung für die Finanzmärkte* (Baden-Baden: Nomos Verlagsgesellschaft, 2014), 109 Ref. 202.

[1351] Holzwarth, „Ein gut gefüllter Werkzeugkasten – Verfolgung von Kartellrechtsverstößen durch die EU-Kommission nach Einführung des Instruments für Whistleblowing", *WuW* Vol. 67, no. 7-8 (2017), 353.

[1352] Engelsing, "Die neue Bonusregelung des Bundeskartellamts von 2006," *ZWeR* Vol. 5, no. 2 (2006), 181.

In Germany, a comparable situation arose when informants offered discs with data on tax evaders to the German tax authorities against payment of a individually negotiated reward. Both in the fields of tax and antitrust law, administrative action requires a legal basis due to the principle of legality of the administration. Yet, neither in antitrust, nor in the StPO or the OWiG there is a section allowing the acquisition of information or proof.[1353] Yet, already a statutory assignment of a task may contain the entitlement to act, because without the possibility to act, the authority may not complete its tasks. If it is hence the FCO´s task to survey the compliance of market actors with the rules of the GWB and – if necessary – punish infringements according to Sec. 32 et sqq., Sec. 81 GWB, the FCO is necessarily entitled to acquire the required information.[1354] Sec. 81 GWB may hence serve as a legal basis for negotiations with potential whistleblowers.

The acquisition of information from a whistleblower might however be a violation of the fundamental constitutional **right to informational self-determination, Art. 1(1) and 2(1) GG**.[1355] This right is applicable not only to natural persons, but also to companies, Art. 19(3) GG.[1356] However, both the process of acquisition and the analysis and utilization of the information are covered by the powers of intervention granted to the FCO according to Sec. 56 et sqq. GWB.[1357] Therefore, the violation of the right to informational self-determination is denied. Also concerns with regard to **budgetary law** and to abetting to the **disclosure of trade and industrial secrets (Sec. 17 UWG),** prove unfounded.[1358]

For the comparable case in tax law, the German Federal Constitutional Court has decided that the acquisition and utilization of the data – even if it comes from a tortious act, which is not necessarily the case with whistleblowing in antitrust – is legal.[1359] Therefore, the negotiation about a reward for information with a potential whistleblower is legal de lege lata.

Yet, a whistleblower program purely based on individual negotiation between the informants and the FCO does not promise to be an overwhelming success, because it contains too much legal uncertainty and a high risk for the informant. The implementation of a

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[1353] Similar for the field of tax law Ingo Kaiser, "Zulässigkeit des Ankaufs deliktisch erlangter Steuerdaten," *NStZ* Vol. 31, no. 7 (2011), 385.
[1354] Ibid.
[1355] Ibid.
[1356] Barbara Remmert, in *Grundgesetz: Kommentar*, ed. Theodor Maunz and Günter Dürig(München: C.H. Beck, 2015), Art. 19(3) GG Ref. 1.
[1357] Similar for the field of tax law Kaiser, "Zulässigkeit des Ankaufs deliktisch erlangter Steuerdaten," *NStZ* Vol. 31, no. 7 (2011), 386.
[1358] Ibid, 387-388.
[1359] *Steuer-CD*, Case 2 BvR 2101/09, WM 2010, 2376 (German Federal Constitutional Court 2010).

codified whistleblower program in the current legal system, no matter if in the field of capital or antitrust law, **requires a legal basis de lege ferenda**.

(2) Implementation de lege ferenda

Since the preceding analysis showed that the opportunities for the implementation of a whistleblower program de lege lata are strictly limited to an inefficient negotiation approach, this section will propose necessary changes in German antitrust law that pave the way for transparent and reliable rules on whistleblowing.

From the experience in other countries that have already implemented whistleblower systems in the field of antitrust, a number of important structural requirements for the program can be named. Overall, an effective whistleblowing program requires clear and transparent rules with regard to the reward and the protection from repression. By contrast, extensive discretion of the authority minders the attractiveness.[1360] In particular, the following requirements need to be respected:

- The kind of antitrust infringement eligible for a reward, e.g. only certain kinds of cartel agreements and manipulations.[1361]
- The requirements with regard to the quality of the information, e.g. what is considered a *new information* of *high importance* that results in a *sanction*.[1362]
- The allocation of the reward in case of several whistleblowers, especially whether strict priority applies or also additional information by a second or third whistleblower may result in a reward.[1363]
- The groups of beneficiaries need to be defined carefully, excluding persons who shall not receive a reward (e.g. officials of the antitrust authorities, professional consultants with a duty to confidentiality, compliance representatives of the firm or employees who have been infringing internal surveillance duties with regard to

[1360] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 335-336.
[1361] Ibid, 336.
[1362] Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 366.
[1363] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 339-340.

the infringement).[1364] Some authors propose to limit the beneficiaries further and only reward true company insiders.[1365]

- The program needs to ensure reliable protection of the informant´s identity.
- The reward needs to be *significant*. Due to the risk of high disadvantages for whistleblowers, the required amounts start with more than 100.000 €.[1366]
- Punishments need to result for abuse of the whistleblower program.[1367]

The **infringements eligible for a reward** should include manipulations of the market by dominant firms according to Sec. 19(2) N° 2 GWB. As proved above, the combination of a leniency program and a corresponding whistleblower program creates a Prisoner´s Dilemma situation between the infringers and potential confidants that increases the incentive to blow the whistle for both infringers and third parties and thereby increases deterrence. In the interest of effective deterrence of manipulations in the energy market, whistleblowing on infringements of Sec. 19(2) N° 2 GWB should absolutely be eligible for a reward by the authority.

The requirements with regard to the **quality of the information** need to be defined precisely. In the European Commission´s proposal in Art. 32(2) of the MAR, four requirements are named:

(1) The information is new.

(2) It is of high importance.

(3) It refers to one of the infringements eligible for a reward, and

(4) a governmental sanction for the infringer results.[1368]

Those criteria seem suited also for the field of antitrust. The criterion *new* shall be discussed under the topic of the allocation of the reward. The eligibility criterion (3) has

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[1364] Ibid, 342.
[1365] Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 366.
[1366] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 336.
[1367] Ibid, 344.
[1368] Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 366.

already been discussed above. The criteria "importance" (2) and "resulting sanction" (4) shall avoid rewards for bagatelles, and erroneous complaints and abuse of the program.

With regard to the **allocation of the reward**, it needs to be decided whether the system only refers to information *on cases not yet known to the authorities* or also *additional information* (e.g. proof) on cases already known.[1369] Existing systems show a wide range of designs reaching from a reward only of the first whistleblower (e.g. in South Korea) to a full reward for *any* whistleblower (e.g. in Hungary).[1370] While *Bueren* considers only priority allocation to be effective,[1371] there is also a good argument for a reward of additional information, especially in cases where proof is hard to acquire. This does in particular refer to complex cases where market power is abused, e.g. the manipulations of prices at the EEX. In constellations like the one discussed in this work, where the authorities already have a justified suspicion that an infringement of the antitrust and capital market laws may have occurred, but do not succeed in proving it, insider informants might deliver the proof needed to actually sanction the infringement. The probability of punishment and thereby overall deterrence of this kind of infringements would increase considerably. The danger of collusion between whistleblowers and retarded whistleblowing[1372] may be handled using a phased payment scheme that provides the highest reward for the first whistleblower.

The **reward** consists of a guarantee to protect the whistleblower´s identity if necessary *and* a financial incentive. In order to balance the need for anonymity and the danger of abuse, the authority may ask for the deposit of an affirmation in lieu of an oath at a lawyer who knows the whistleblower´s identity.[1373] Besides the guarantee of protection, there is a need for a substantial financial reward for the reasons discussed above. In the existing whistleblower programs, the approaches differ between a fixed scope for the reward (UK), a percentage share of the fine charged from the infringer (USA) and negotiated settlements.[1374] Advantages and disadvantages of the different approaches shall not be discussed in depth in this work. An effective whistleblower program should however consider that extensive discretion of the authority with regard to the individual reward creates legal

[1369] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 340-341.
[1370] Ibid, 339.
[1371] Ibid, 340.
[1372] Ibid.
[1373] Holger Fleischer and Schmolke, "Finanzielle Anreize für Whistleblower im Europäischen Kapitalmarktrecht?: Rechtspolitische Überlegungen zur Reform des Marktmissbrauchsregimes," *NZG* Vol. 15, no. 10 (2012), 367.
[1374] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 338.

uncertainty – which comes at the cost of information not offered to the antitrust authorities.[1375]

Finally, the design of the whistleblower program needs to **respect internal compliance programs** of the firms. The incentive to report an infringement to the authorities instead of the internal compliance management needs hence to be controlled. With rules ensuring that the whistleblower keeps his position with regard to priority and novelty of his information *and* an obligation to contact the internal compliance management before the authorities, this conflict may be handled.[1376]

(3) Conclusion

As a result, the implementation of a whistleblower program is a feasible instrument to increase the detection and prosecution of market manipulation also from a legal point of view. **De lege lata**, the negotiation approach should be realized immediately in the framework of the existing whistleblower system of the FCO to set financial incentives for informants. **De lege ferenda**, the legislator should create a legal basis for the implementation of an FCO notice on whistleblowing that sets transparent and reliable standards for the information required, the level of protection and the reward offered. A proposal will be introduced in the following subsection dd).

dd) Design of a whistleblowing program for abuse cases

Following the requirements for whistleblower systems introduced in the previous section, a proposal for the design of a German program will be presented subsequently. It uses the existing whistleblower programs in the United Kingdom – the **informant reward program** introduced in 2008 by the Office of Fair Trading (OFT)[1377] – and the **Reward Payment to Informants Scheme** of the Competition Commission of Pakistan (CCP) from 2007[1378] as an example.

[1375] Ibid, 339.
[1376] Ibid, 345.
[1377] Ibid, 328.
[1378] Ibid, 331.

German Federal Cartel Office
Notice on the whistleblower system

The German Federal Cartel Office has extended its whistleblower system. The objective of the system is to detect and prosecute antitrust infringements prohibited in the GWB. These guidelines are being issued pursuant to the legal basis in the GWB.

Sec. 1 Eligible persons

(1) As a general rule, everybody possessing information about an infringement of the GWB is eligible for a reward.

(2) By derogation from paragraph (1), the following groups of persons are not eligible for a reward under the whistleblower program:

1. *Officials of the Federal Cartel Office or other antitrust authorities,*
2. *Professional consultants with a duty to confidentiality towards their clients,*
3. *Compliance managers and comparable employees with regard to infringements of their employers,*
4. *Employees who have been infringing firm internal surveillance duties with regard to the infringement.*[1379]

Sec. 2 Eligible information

(1) The Federal Cartel Office will as a general rule pay a reward reaching from 10 to 30 percent of the fine charged from the infringer to an informant, if

2. *the informant is the first to report a cartel according to Sec. 1 GWB or an abuse of a dominant market position according to Sec. 19 GWB to the authority before it has knowledge about the infringement and*

[1379] Inspired by ibid, 342.

3. *the informant enables the Federal Cartel Office by way of oral and written information and – if available – pieces of evidence to prove the infringement and issue a fine against the infringer and*

4. *the informant has reported the infringement to the internal compliance management of his employer before, but no more than 90 days before his report to the FCO.*

(2) In favor of an infringer who does not fulfill the requirements for a reward according to paragraph (1), the Federal Cartel Office will pay a reward reaching up to 20 percent of the fine charged from the infringer to the informant, if

1. *the informant enables the Federal Cartel Office by way of oral and written information and – if available – pieces of evidence to prove the infringement and issue a fine against the infringer and*

2. *the informant has reported the infringement to the internal compliance management of his employer before, but no more than 90 days before his report to the FCO.*

(3) It shall be in the discretion of the Federal Cartel Office not to accept the intended information provided by the informant.

Sec. 3 Reward payment

(1) The reward shall be paid subject to the condition that the information provided by the informant is accurate, verifiable and useful in the Federal Cartel Office´s work.

(2) The reward paid shall be calculated by reference to the usefulness of the information provided, seriousness of the antitrust infringement, efforts and expenses made by the informant, and level and nature of the informant´s contribution and cooperation with the authority.

(3) The reward shall be paid in three installments:

a. *An initial payment upon receipt of the information and after a general assessment of the value and authenticity of the information within a period of 30 days from the date of receipt of the complete information,*

b. A second payment upon issuance of the Federal Cartel Office´s order to the infringer within a period of six months from the date of passing the order,

c. The substantial portion of the reward upon recovery of the fine from the infringer within a period of six months from the date of receipt.[1380]

Sec. 4 Protection of the informant

(1) The informant´s identity shall be kept secret, unless he agrees to give evidence.

(2) The authority may ask for the deposit of an affirmation in lieu of an oath at a lawyer who is aware of the whistleblower´s identity. The document may only be accessed by the authority in case of abuse of the whistleblower program.

Sec. 5 Punishment for abuse

Any abuse of the whistleblower program will be prosecuted as an administrative offense and may be punished with a fine of up to 50,000 euros.

ee) Conclusion

The analysis of whistleblowing as a tool to increase the probability of punishment in cases of market manipulation has shown, that both, from an economic and a legal perspective, whistleblowing is effective and cost-efficient. **De lege lata**, individual negotiations may already today allow informants to receive a reward for their information from the FCO. In order to establish whistleblowing in antitrust deterrence on a larger scale, a codified set of rules is necessary **de lege ferenda**.

Also, the idea of whistleblowing might be extended to other fields of economic law with complex crimes that regularly are hard to prove. In the context of manipulations of the energy market, this thought refers to capital market law in particular. The legislator might

[1380] The reward section was largely taken from the Pakistani example. Refer to Competition Commission of Pakistan, Revised Guidelines on "Reward Payment to Informants Scheme", 2007, 2-3.

hence consider the installation of a central office for whistleblowing on matters that concern the compliance of energy market participants with the law that refers to both capital market and antitrust law. The concept will be brought up again in the fifth chapter of this work treating an integrated system for the prosecution of violations of the law in the exchange environment.

c) Proof on the basis of profits: "Gewinnbegrenzung"

Besides the legal tools focusing on the collection of evidence discussed so far, this section will treat the legal framework with regard to the proof of infringements. The more options the authority has to prove infringements, the higher the rate of conviction r_C. The law does not prescribe the application of marginal cost calculations for the proof of overcharged prices (subsection aa). This chapter will raise the question whether the marginal cost approach is the best-suited method to find and prove pricing strategies that build upon a dominant market position (subsection bb). It will be asked whether – due to a permanent lack of reliable data on the marginal cost of production – this approach appears to be unsuitable to prove infringements of Art. 102 TFEU and Sec. 19 GWB. Yet, the law also allows for alternative techniques to prove an abuse of market power (subsection cc).[1381] As a consequence, the insistence on the marginal cost approach in the antitrust authorities' examinations violates the concept of effectiveness (effet utile), if other techniques promise to be more successful, Art. 4(3) TFEU (subsection dd).

aa) Legal rules on the proof of price overcharges

In German antitrust law, price overcharges according to Sec. 19 GWB need to be proved by the antitrust authority. However, the law does not bind the authority to a specific method of proof, Sec. 19(2) N° 2 second sentence GWB.[1382] Therefore, both marginal cost-based approaches and profit-based approaches to the proof of a price overcharge are legitimate de lege lata.[1383] Especially, the FCO is not bound to an examination based on

[1381] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 19.
[1382] Ibid.
[1383] Christoph Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 62. See also Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, 14 Ref. 19. With reference to *Netznutzungsentgelt*, VI-Kart 2/02 (V), WuW/E DE-R 914 916 et sqq. (Higher Regional Court (OLG) Düsseldorf 2002).

comparable markets before employing a profit-based approach.[1384] In case one of the approaches promises better results, it should therefore be preferred in the authority´s practice.

Also, European law does not prescribe which data the Commission needs to consult in order to find price overcharges by dominant firms.[1385] In the past, both a marginal cost-based approach and profit-based proof (European Court of Justice in *United Brands*)[1386] have been used to examine pricing in markets.[1387]

The following sections will discuss in more detail strengths and weaknesses of the two approaches named in order to find the superior strategy to the proof of manipulations.

bb) Marginal cost-based approaches (Comparable market concept)

Today, antitrust authorities both in Europe[1388] and Germany[1389] rely on the comparable market concept when trying to prove abuse of a dominant position by a firm. This means that the abuse is found based on a comparison with prices that would be observed in the event of effective competition.[1390] As has been shown in the introductory section, pricing in competitive markets is based on the marginal cost of the producers.[1391] Hence, the antitrust authorities need to prove that power producers offer electricity at a price above the marginal cost of production at the energy exchange. In order to produce that evidence, the authorities need data on the marginal cost of production of any power seller suspicious of pricing above its marginal cost. This data is, however, only available to the producer itself and will not be revealed to the antitrust authorities. As a consequence, the FCO has made huge effort to calculate the marginal cost for any of the various sources of

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[1384] Kurt Markert, in *Münchener Kommentar zum Europäischen und Deutschen Wettbewerbsrecht (Kartellrecht)*, ed. Günter Hirsch, Frank Montag, and Franz Jürgen Säcker(München: C.H. Beck, 2008), Sec. 29 Ref. 42.
[1385] Horst-Peter Götting, in *Kartellrecht: Kommentar*, ed. Ulrich Loewenheim, Karl M. Meessen, and Alexander Riesenkampff, 2nd ed. (München: C.H. Beck, 2009), Sec. 19 Ref. 80.
[1386] *United Brands Company and United Brands Continentaal BV v. Commission*, Case 27/76, European Court Reports 1978, 207 (European Court of Justice 1978).
[1387] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, 14 Ref. 18.
[1388] Andreas Fuchs and Wernhard Möschel, in *EU-Wettbewerbsrecht*, ed. Ulrich Immenga and Ernst-Joachim Mestmäcker, 5th ed. (München: C.H. Beck, 2012), Art. 102 AEUV Sec. 181.
[1389] Götting, in Kartellrecht: Kommentar, ed. Loewenheim, Meessen, and Riesenkampff, 2nd ed. (München: C.H. Beck, 2009), Sec. 19 Ref. 74.
[1390] Ibid.
[1391] Refer to the first chapter, section D.I.2.

electricity (e.g. nuclear energy, hard and brown coal, gas) offered at the EEX in the past.[1392]

However, this approach has not proved to lead to robust results: The FCO request for data on marginal cost, connected with plausibility controls for some types of power plants has revealed that firms might have reported excessive marginal cost to the authority.[1393] The FCO then calculated marginal cost for the power producers based on four cost factors:

- Fuel costs,
- operating costs,
- carbon emission costs,
- start-up and shutdown costs.[1394]

It could be shown that some plants were being offered at the exchange, even though their marginal cost exceeded the price paid in the market. However, the FCO was not able to prove excessive prices based on this data. A number of alternative explanations for the seemingly uneconomic use of the power plants, e.g. a lacking flexibility of the plant, the use in the balancing market or data errors were making a definite conclusion on manipulative behavior impossible.[1395] When applying the comparable market approach, the authority is forced to make **surcharges and reductions** in the process of finding the competitive price because of uncertainty about the actual data.[1396] Also charging a price exceeding the competitive price (thus marginal cost) is not yet sufficient to prove an abuse: Rather, the authority needs to find a *considerable* exceedance.[1397] Therefore, the proof of price abuse requires that the deviation between marginal cost and price demanded be substantial. Again, the authority makes a surcharge on the calculated competitive price to fulfill the requirement.[1398]

[1392] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09, 161 et sqq.
[1393] Ibid, 166 Ref. 206.
[1394] Ibid, 162.
[1395] Ibid, 198-199.
[1396] Götting, in Kartellrecht: Kommentar, ed. Loewenheim, Meessen, and Riesenkampff, 2nd ed. (München: C.H. Beck, 2009), Sec. 19 Ref. 76.
[1397] Franz Jürgen Säcker, Gesa Marisa Gosse, and Maik Wolf, in *Münchener Kommentar zum Europäischen und Deutschen Wettbewerbsrecht (Kartellrecht)*, ed. Günter Hirsch, Frank Montag, and Franz Jürgen Säcker(München: C.H. Beck, 2008), Sec. 19 Ref. 63.
[1398] Götting, in Kartellrecht: Kommentar, ed. Loewenheim, Meessen, and Riesenkampff, 2nd ed. (München: C.H. Beck, 2009), Sec. 19 Ref. 77.

As a result, the authority is often not able to prove excessive pricing based on this concept: A comparable competitive price mainly calculated on the basis of surcharges and reductions may not be a robust basis for a ruling on abuse practices.[1399]

cc) Profit-based approaches ("Gewinnbegrenzungskonzept")

Some authors do therefore propose the proof of price overcharges based on the profits of firms.[1400] This approach does not require information about the marginal cost of the firms under suspicion of excessive pricing. Instead, the inappropriate ratio of cost and price (limitation of profits) is used for the determination of abuse.[1401] Supporters of this approach argue that the data needed for the proof of excessive pricing is more easily available than is data needed under the comparable market concept. Information on the firms´ profits and costs is available from the company balance sheets, information on prices charged is available in the market. The regulator is only required to define a threshold for the accepted equity yield rate and compare it to the actual rates realized by the firms under suspicion of price manipulation.[1402] In theory, the detection of price manipulations should therefore be much more easily than under the comparable market concept.

(1) A profit-based approach in practice: Sec. 29 first sentence N° 2 GWB

The German legislator has, apparently following this logic, introduced a profit-based regulatory approach explicitly in Sec. 29 first sentence N° 2 GWB. In an effort to strengthen abuse control in the energy sector, the norm was introduced in December 2007 as part of the 7th amendment of the Act against Restraints of Competition (GWB).[1403] It shall serve as an example for the utility of profit-based proof in abuse cases.

[1399] Ibid, Sec. 19 Ref. 76. With reference to *Stadtwerke Mainz*, Case KVR 17/04, WuW/E DE-R, 1513 (German Federal Court of Justice 2005).

[1400] For the economic idea behind this rate of return regulation approach see e.g. Arnold C. Harberger, "Monopoly and Resource Allocation," *The American Economic Review* Vol. 44, no. 2 (1954), 78.

[1401] Markert, in Münchener Kommentar zum Europäischen und Deutschen Wettbewerbsrecht (Kartellrecht), ed. Hirsch, Montag, and Säcker(München: C.H. Beck, 2008), Sec. 29 Ref. 1 and 40-42. See also Götting, in Kartellrecht: Kommentar, ed. Loewenheim, Meessen, and Riesenkampff, 2nd ed. (München: C.H. Beck, 2009), Sec. 19 Ref. 80.

[1402] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 23.

[1403] Harald Kahlenberg and Christian Haellmigk, "Aktuelle Änderungen des Gesetzes gegen Wettbewerbsbeschränkungen," *BB* Vol. 63, no. 5 (2008), 174.

The norm allows abuse control based on both, the comparable market concept (Sec. 29 first sentence N° 1 GWB) and profit-based (Sec. 29 first sentence N° 2 GWB – "Gewinnbegrenzungskonzept").[1404] With regard to the profit-based approach, the paragraph reads:[1405]

> *"§ 29 Energy Sector*
>
> *An undertaking, which is a supplier of electricity or pipeline gas (public utility company) on a market in which it, either alone or together with other public utility companies, has a dominant position, is prohibited from abusing such position by*
>
> *1. [...]*
>
> *2. demanding fees which unreasonably exceed the costs.*
>
> *Costs that would not arise to the same extent if competition existed must not be taken into consideration in determining whether an abuse within the meaning of sentence 1 exists. [...]"*

Hence, the proof of an abuse requires the legal definition of several terms:

- The firm´s cost,
- the threshold for an unreasonable exceedance of costs, and
- costs that would not arise under competitive circumstances.

Furthermore, the price the firm demands needs to be identified, which raises a number of questions as well.[1406]

(a) The definition of costs under Sec. 29 GWB

Sec. 29 GWB itself does not refer to a specific cost concept.[1407] Also the explanatory memorandum to the act does not define whether the term cost refers to marginal cost of

[1404] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 9 with graphical illustration.
[1405] Translation provided by the FCO (Bundeskartellamt).
[1406] Massimo Motta, *Competition Policy : Theory and Practice* (Cambridge: Cambridge Univ. Press, 2004), 186.
[1407] Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 62. Also Axel Beckmerhagen and Christoph Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 121.

production or any other cost definition, e.g. including overhead costs.[1408] It is hence left to the applicants of the law – which is the antitrust authorities – to define guidelines for the practical abuse control. The government draft refers the authorities to recognized economic theories like the price equals marginal cost paradigm for competitive markets.[1409] It is, however, left open how marginal cost is to be determined in markets with imperfect competition.[1410]

Also with regard to "costs that would not arise to the same extent if competition existed", Sec. 29 GWB lacks a definition. It seems hard to imagine how antitrust authorities and private claimants shall uncover inefficiencies in firms with a dominant market position, since there is neither competition nor transparent information on cost structures that might help to identify the efficient level of costs.[1411]

(b) Unreasonable exceedance of costs

For the case of price manipulation in the energy market, the legislator has defined adequacy of profits based on "common price formation mechanisms in competitive markets" and "the goal of inexpensive power supply defined in Sec. 1 EnWG".[1412] Yet, based on these general statements on pricing, the determination of a threshold for unreasonably high costs is not possible. Rather, the identification of a price that is "too high" – which is it unreasonably exceeds the costs of production – raises many practical questions.[1413] *Ritter and Lücke* recommend the reference to the adequacy criterion applied with regard to network access.[1414] However, the field of network access is a regulated market with

[1408] Axel Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 466.
[1409] German Federal Government, Gesetzentwurf der Bundesregierung: Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels, 2007, Drucksache 16/5847,, 11.
[1410] Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 467 Ref. 41. Refer also to Kurt Markert, "Die Preishöhenkontrolle der Strom- und Gaspreise nach dem neuen § 29 GWB," *ZNER* Vol. 11, no. 4 (2007), 368.
[1411] Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 467.
[1412] Markert, in Münchener Kommentar zum Europäischen und Deutschen Wettbewerbsrecht (Kartellrecht), ed. Hirsch, Montag, and Säcker(München: C.H. Beck, 2008), Sec. 29 Ref. 51. With reference to German Federal Government, Gesetzentwurf der Bundesregierung: Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels, 2007, Drucksache 16/5847,, 17.
[1413] Motta, Competition Policy : Theory and Practice (Cambridge: Cambridge Univ. Press, 2004), 186.
[1414] Jan-Stephan Ritter and Alexander Lücke, "Die Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels - geplante Änderungen des GWB," *WuW* Vol. 57, no. 7/8 (2007), 703.

risk-free interest rates,[1415] other than the market in the focus of Sec. 29 GWB is. Therefore, authorities have to define the adequacy of costs and prove any divergence in every individual case.[1416] This approach would result in a regime of price regulation that disables the marginal cost based price formation mechanism at EEX.[1417]

(c) Conclusion

In consequence, the analysis shows that neither the term cost nor the exceedance of a reasonable level of cost is defined in Sec. 29 GWB. This situation leaves authorities and firms subject to the regulation with numerous practical problems that will be discussed in the following subsection.

(2) Practical problems with profit-based regulation

Even if a profit-based regulatory approach looks promising in theory, it is much less in practice. The apparent advantage that no information on the marginal cost of the manipulator and its competitors is needed is largely negated by the need for precise definitions of cost, prices and equity yield rate,[1418] as well as data on these variables.

These problems make the profit-based approach at least as difficult to handle as the comparable market approach is. Furthermore, it results in high legal uncertainty for market participants.[1419]

[1415] Jörg Wiese and Peter Gampenrieder, "Der risikolose Zins in der Energiewirtschaft aus betriebswirtschaftlicher Sicht," *VW* Vol. 59, no. 8 (2007), 185. Refer also to Gernot Müller, "Berücksichtigung der Kapitalverzinsung bei der Entgeltregulierung von Netzsektoren," *N&R* Vol. 5, no. 2 (2008), 56-57.

[1416] Markert, "Die Preishöhenkontrolle der Strom- und Gaspreise nach dem neuen § 29 GWB," *ZNER* Vol. 11, no. 4 (2007), 369.

[1417] Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 62. See also Andreas Lotze and Hans-Christoph Thomale, "Neues zur Kontrolle von Energiepreisen: Preismissbrauchsaufsicht und Anreizregulierung," *WuW* Vol. 58, no. 3 (2008), 263. A different opinion is hold by Jan-Stephan Ritter and Alexander Lücke, "Die Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels - geplante Änderungen des GWB," ibid Vol. 57, no. 7/8 (2007), 702.

[1418] Andreas Lotze and Hans-Christoph Thomale, "Neues zur Kontrolle von Energiepreisen: Preismissbrauchsaufsicht und Anreizregulierung," ibid Vol. 58, no. 3 (2008), 263.

[1419] Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 467. See also Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 62.

dd) Conclusion

As a result, it may therefore not be stated that the profit-based approach to the proof of manipulations is superior to the marginal-cost based strategy predominant in practice today. A violation of the concept of effectiveness (effet utile, Art. 4(3) TEU) due to the antitrust authorities' preference for the comparable market concept in abuse control may hence not be found.

d) Shift of the burden of proof

The legal instrument presented in this section starts the search for evidence from where it is to be found: The infringers. Today, the burden of proof for the abuse of a dominant position according to Art. 102 TFEU respectively Sec. 19 GWB lies with the antitrust authorities.[1420] An increase of the probability of punishment might hence be reached through a shift of the burden of proof to the infringers who possess all the necessary information to build a case.[1421] The potential infringers would hence have to rebut the presumption that prices higher than the ones of comparable firms are excessive and therefore an abuse of their dominant market position.

However, the shift of the burden of proof is a serious interference with the procedural rights of the infringers.[1422] This section will examine the potential effects of the shift of the burden of proof on the probability of prosecution (subsection aa), discuss its legality (subsection bb), examine experience with comparable rules, especially Sec. 29 GWB (subsection cc) and conclude in subsection dd.

aa) Effects of a shift of the burden of proof on the probability of punishment

Today, antitrust authorities need to meet comprehensive burden of proof obligations in order to establish with sufficient certainty that a company dominates a market and uses this power to manipulate the market outcome. In detail, the authorities need to comply

[1420] Beckmerhagen and Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 123.
[1421] The European Commission develops a similar thought in its proposal for a directive on cartel damages actions. Refer to European Commission, Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union, 2013, COM(2013) 404 final, 13.
[1422] Beckmerhagen and Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 123, 124. See also Achim-Rüdiger Börner, "Die Missbrauchsaufsicht über Strom- und Gaspreise und ihre Verschärfung," *VW* Vol. 60, no. 4 (2008), 83.

with the principle of ex officio investigation: All facts relevant to clarify the matter need to be investigated.[1423] With regard to Sec. 19(2) N° 2 GWB, the FCO needs not only to determine the dominant position of the firm under investigation, but also the relevant comparison price within the framework of the comparable market concept[1424] and a lacking justification for the firm´s deviation from this price.[1425] The proof is, however, hard to establish in practice.[1426] The Commission´s and the FCO´s sector inquiries illustrate this problem explicitly.[1427] Thus, the lack of price and cost data on the authority´s side, combined with its burden of proof obligations, keeps the probability of punishment in manipulation cases considerably low.

A shift of the burden of proof to the party who possesses all the necessary data might therefore be a promising approach to increase the number of cases detected and fined. The German legislator had similar reasons when introducing **Sec. 29 GWB** in 2007:[1428] The norm was supposed to intensify the supervision of energy markets and specifically the control of pricing in this market.[1429] For this purpose, it contains a shift of the substantial burden of proof to the dominant energy producers[1430] that shall motivate the firms to work more cooperatively on the clarification of the matter.[1431] It may therefore serve as a model for the following considerations on a shift of the burden of proof in abuse cases.

The obligations for firms from the burden of proof according to Sec. 29 first sentence N° 1 GWB refer to the factual justification of prices differing from the ones the comparable firm

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[1423] Ritter and Lücke, "Die Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels - geplante Änderungen des GWB," *WuW* Vol. 57, no. 7/8 (2007), 703.

[1424] For details on the comparable market concept relevant for the determination of the market price refer to the first chapter section E.II.2.b) of this work. Also refer to Volker Emmerich, *Kartellrecht : Ein Studienbuch*, 11th ed. (München: Beck, 2008), 368-369.

[1425] Börner, "Die Missbrauchsaufsicht über Strom- und Gaspreise und ihre Verschärfung," *VW* Vol. 60, no. 4 (2008), 84.

[1426] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 7. See also Motta, *Competition Policy : Theory and Practice* (Cambridge: Cambridge Univ. Press, 2004), 69-70.

[1427] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09, 157-158. See also Fouquet, Seidenspinner, and Füller, "Kurzgutachten Wettbewerbs- und energiepolitische Lücken der Sektoruntersuchung Stromerzeugung, Stromgroßhandel des Bundeskartellamtes vom Januar 2011," 6. Also Becker, "Die Sektoruntersuchung Stromerzeugung/Stromgroßhandel des Bundeskartellamtes: Ausgezeichnete Analyse, unzureichende Konsequenzen," *ZNER* Vol. 15, no. 2 (2011), 118. With regard to the Commission´s inquiry refer to European Commission, Commission Staff Working Document, 2006, COM(2006) 851 final, 146 Ref. 436 and p. 150.

[1428] German Federal Government, Gesetzentwurf der Bundesregierung: Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels, 2007, Drucksache 16/5847,, 9. Also Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 464.

[1429] Jan-Stephan Ritter, "Regierungsentwurf zum Gesetz zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels," *WuW* Vol. 58, no. 2 (2008), 142. Also Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 458 and 464.

[1430] Lotze and Thomale, "Neues zur Kontrolle von Energiepreisen: Preismissbrauchsaufsicht und Anreizregulierung," *WuW* Vol. 58, no. 3 (2008), 259.

[1431] Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 340. With reference to Heitzer, "Schwerpunkte der deutschen Wettbewerbspolitik," *WuW* Vol. 57, no. 9 (2007), 858.

determined by the antitrust authority is charging.[1432] Hence, other than with Sec. 19(2) N° 2 GWB, where the antitrust authority is obliged to prove the comparability of the firms under the comparable markets concept, *the firm suspicious of abusing its market power* needs to prove that no comparability exists according to Sec. 29 first sentence N° 1 GWB. Furthermore, the burden of proof with regard to the deviation of prices from the ones the comparable firm charges lies with the potential infringer.[1433] This alternative distribution of the burden of proof between antitrust authority and potential infringer reflects in the outcome of the investigations: While a ruling on abusive practices fails under Sec. 19(2) N° 2 GWB if the antitrust authority may not prove the comparability of firms and a considerable price deviation, it may succeed under Sec. 29 first sentence N° 1 GWB if the potential infringer is not able to prove the lack of comparability or justify the price deviation.[1434] Remaining doubts about the matter (non liquet) are on the firms´ account.[1435]

A rule of the type of Sec. 29 first sentence N° 1 GWB may hence change the probability of conviction in abuse cases. However, this result comes at a cost – both with regard to economic incentives and legal concerns with regard to its legitimacy. The next section will examine these concerns and show whether a shift of the burden of proof is still a suitable measure to increase the probability of punishment.

bb) Legitimacy of the shift of the burden of proof

The shift of the burden of proof on the potential infringers shifts the problem of information procurement about market prices and production cost towards the firms. What might sound like an ideal solution to the information deficit of antitrust authorities creates, however, new problems on the side of the firms. Furthermore, questions with regard to the legitimacy under German law arise. This section will discuss whether the shift of the burden of proof is allowed under the German constitution.

[1432] Kahlenberg and Haellmigk, "Aktuelle Änderungen des Gesetzes gegen Wettbewerbsbeschränkungen," BB Vol. 63, no. 5 (2008), 177. Also Lotze and Thomale, "Neues zur Kontrolle von Energiepreisen: Preismissbrauchsaufsicht und Anreizregulierung," *WuW* Vol. 58, no. 3 (2008), 261. And Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 465.

[1433] Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 341.

[1434] Ibid.

[1435] Lotze and Thomale, "Neues zur Kontrolle von Energiepreisen: Preismissbrauchsaufsicht und Anreizregulierung," *WuW* Vol. 58, no. 3 (2008), 261.

(1) Legitimacy under German law: The principle of ex officio investigations

Under the application of the comparable market concept, authorities do not possess all the information needed for the clarification of the matter. Rather, the firm under suspicion needs to present data on cost structures and pricing of the firm used as a comparator, thus another firm, in order to prove the factual justification of a price deviation.[1436]

The information procurement by the firm therefore faces two problems: First, a firm does neither have investigation powers comparable to the ones an antitrust authority has, nor are there rights to information that could be used to gather the data that is needed.[1437] Furthermore, the firm used as a comparator will often be a competitor of the firm under suspicion. Data needed for the justification of the potential infringer´s position – e.g. different purchasing or distribution costs, profit margins and so on – will normally not be available because it has the character of trade secrets and – under competitors – must not be shared according to the ban of cartels in Sec. 1 GWB.[1438]

The conflict is solved referring to the **principle of ex officio investigation**, which is laid down in Sec. 57(1) and 70(1) GWB for the field of antitrust. Hence, the authority needs to investigate the matter of the case by itself. This duty does not only cover incriminating facts, but also mitigating circumstances. Especially the investigation of facts that are beyond the reach of the firm under suspicion – e.g. the data of competitors named above – is part of the obligation to collect proof of the authority.[1439] The shift of the burden of proof to the firm according to Sec. 29 first sentence N° 1 GWB does oblige the potential infringer to cooperate by presenting all the relevant information from its spheres of knowledge and business, which is mainly facts that justify higher costs of production than the comparator firm.[1440]

Only after the antitrust authority has conclusively determined the facts of the case, uncertainties with regard to the structural comparability with another firm and the price overcharge remain for the potential infringer to prove.[1441] Any other interpretation of the

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[1436] Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 465. Also Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 63.
[1437] Metzger, "Energiepreise auf dem Prüfstand: Zur Entgeltkontrolle nach Energie-, Kartell- und Vertragsrecht," *ZHR* Vol. 172, no. 4 (2008), 466. See also Lotze and Thomale, "Neues zur Kontrolle von Energiepreisen: Preismissbrauchsaufsicht und Anreizregulierung," *WuW* Vol. 58, no. 3 (2008), 262.
[1438] Kahlenberg and Haellmigk, "Aktuelle Änderungen des Gesetzes gegen Wettbewerbsbeschränkungen," BB Vol. 63, no. 5 (2008), 177. See also Heitzer, "Schwerpunkte der deutschen Wettbewerbspolitik," *WuW* Vol. 57, no. 9 (2007), 858.
[1439] Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 349.
[1440] Ibid.
[1441] Ulrich Scholz, in *Handbuch des Kartellrechts*, 2nd ed. (München: C.H. Beck, 2008), § 34 Ref. 146.

shift of the burden of proof in Sec. 29 first sentence N° 1 GWB violates the inquisitorial principle, the constitutionality of the administration and the rule of law.[1442]

As a result, the shift of the substantive burden of proof from the antitrust authority to the firms does not release the authority from its duty to a comprehensive clarification of all facts of the case, especially to find comparability and the price difference with the comparator firm.[1443] The antitrust authorities do hence not have fewer duties to collect evidence than under Sec. 19(2) N° 2 and 3 GWB. The shift of burden of proof as codified in Sec. 29 first sentence N° 1 GWB does rather underline the duty of firms to cooperate in the process.[1444]

(2) Constitutional limitations in German fine proceedings

Moreover, the shift of the burden of proof is only in accordance with the German constitutional requirements in cartel administrative proceedings: In proceedings for fines imposed under cartel law, the presumption of innocence, deducted from the rule of law in Art. 20(3) GG, applies.[1445] Presumption rules or a shift of the burden of proof are therefore not applicable in administrative proceedings like fines for antitrust infringements.[1446] **In fine proceedings, the authority bears the full burden of proof** for the accusation against the potential infringer. Therefore, the antitrust authority needs to prove all matters of the case including the lack of a factual justification of price deviations, because a shift of the burden of proof may not apply for reasons of conflicting constitutional law.[1447]

Therefore, the shift of the burden of proof only brings changes for cartel damages proceedings at civil courts, where the principle of production of evidence applies: Parties need to adduce evidence of the facts of the case, in the manner and to the extent which is in their interest. With the introduction of a shift of the burden of proof, the probability of successful proceedings might increase if claimants only need to proof the dominant market position of the power producer and the fact that the price charged exceeds the price of

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[1442] Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 355-356. With reference to Bodo Heinrich, *Die verfassungswidrige Beweislastnorm - zugleich ein Beitrag zu den Vermutungen des § 22 Abs. 3 GWB* (Münster 1985), 245-246.
[1443] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 14.
[1444] Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 354, 356.
[1445] Beckmerhagen and Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 123. Also Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 63 Ref. 20.
[1446] Dannecker and Biermann, in *Wettbewerbsrecht Band 2: GWB: Kommentar zum Deutschen Kartellrecht*, ed. Immenga and Mestmäcker, 4th ed. (München: C.H. Beck, 2007), Vor Sec. 81 Ref. 257.
[1447] Beckmerhagen and Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 124.

another producer. The burden of proof for the factual justification of the price deviation would be with the power producer.[1448] The related questions of private damages actions will be treated in section C of this work.

(3) Conclusion

In conclusion, the shift of the burden of proof to the potential infringers is in accordance with German constitutional law:

- In fine proceedings, the authority continues to bear the full burden of proof for the infringement including the matters of the case, the comparability of firms under the comparable market concept and the lack of justification for price deviations.[1449]
- In administrative proceedings, the principle of ex officio investigation remains in force – the authority needs hence to investigate all circumstances including those that relieve the potential infringer. Firms are hence rather subject to increased duties of cooperation for all facts that are on their behalf than to a comprehensive burden of proof.[1450]

From a legal point of view, a (limited) shift of the burden of proof is therefore feasible and has been introduced with Sec. 29 first sentence N° 1 GWB. The next section will discuss the practical relevance of the norm since its introduction in 2007.

cc) Experience with the distribution of the burden of proof in Sec. 29 GWB

The last sections have shown that the primary goal of the introduction of Sec. 29 GWB was to enhance the possibilities of intervention for the antitrust authorities.[1451] However, in practice, the norm had almost no relevance. *Kahlenberg* already pointed this out by the time of the introduction of the paragraph in 2007.[1452] The Federal Cartel Office only

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[1448] Ritter and Lücke, "Die Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels - geplante Änderungen des GWB," *WuW* Vol. 57, no. 7/8 (2007), 704. Refer also to Beckmerhagen and Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 124.
[1449] "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 124. Also Stadler, "Der Gesetzentwurf zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *Betriebs-Berater* Vol. 62, no. 2 (2007), 63 Ref. 20.
[1450] Koleva, *Die Preismissbrauchskontrolle nach § 29 GWB* (Baden-Baden: Nomos Verlagsgesellschaft, 2013), 356.
[1451] Ritter and Lücke, "Die Bekämpfung von Preismissbrauch im Bereich der Energieversorgung und des Lebensmittelhandels - geplante Änderungen des GWB," *WuW* Vol. 57, no. 7/8 (2007), 698.
[1452] Kahlenberg and Haellmigk, "Aktuelle Änderungen des Gesetzes gegen Wettbewerbsbeschränkungen," *Betriebs-Berater* Vol. 63, no. 5 (2008), 177.

mentioned Sec. 29 GWB in passing in its 2011 Sector inquiry on abusive pricing in the wholesale market for power, without building its argument on the norm.[1453] Furthermore, there has not been one case where antitrust authorities have applied Sec. 29 GWB to the energy wholesale markets.[1454]

Already before the introduction of the shift of the burden of proof in Sec. 29 first sentence N° 1 GWB, it has been subject to severe criticism.[1455] The *Monopoly Commission* pointed out that the proof of comparability of firms – now shifted to the firms suspicious of market manipulations – could not be provided by the firms due to a lack of structural data. In this situation, the authority remains in charge of the evidence for the constitutional reasons discussed above, which equals the situation under the existing Sec. 19 GWB.[1456] An increase of the number of convictions in manipulation cases may therefore not be expected from the shift of the burden of proof.

Still, the legislator has prolonged the intensified abuse control in Sec. 29 GWB for another five years with the 8th amendment of the GWB.[1457] With reference to the markets for power production and wholesale, it is argued that the transformation from monopolistic to competitive markets is not yet complete, which requires intensified abuse control in the shape of Sec. 29 GWB.[1458] The legal and economic facts have however not changed since the introduction of the norm. A reduction of the practical problems abuse control poses for antitrust authorities may therefore not be expected.[1459] The temporal forfeiture clause limits the applicability of the norm to December 31, 2017.[1460] A further prolongation is not expected.

[1453] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09, 26 and 191.
[1454] Peter Gussone, "Die 8. GWB-Novelle und ihre Bedeutung für die Energie- und Versorgungswirtschaft," *EnWZ* Vol. 1, no. 1 (2012), 18.
[1455] Ibid, 17.
[1456] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 14.
[1457] Gussone, "Die 8. GWB-Novelle und ihre Bedeutung für die Energie- und Versorgungswirtschaft," *EnWZ* Vol. 1, no. 1 (2012), 17.
[1458] German Federal Government, Entwurf eines Achten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen (8. GWB-ÄndG), 2012, Drucksache 17/9852, 35 et sqq.
[1459] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 8.
[1460] Christian Alexander, "Die Neuordnung der kartellrechtlichen Missbrauchsaufsicht," *WuW* Vol. 62, no. 11 (2012), 1034. See also Wolfgang Bosch and Alexander Fritzsche, "Die 8. GWB-Novelle - Konvergenz und eigene wettbewerbspolitische Akzente," *NJW* Vol. 66, no. 31 (2013), 2229.

dd) Conclusion

The above examinations of economic and legal implications of a shift of the burden of proof on the potential infringer have shown that, if applied within the limits of constitutional law, the practical problems with regard to the proof of abusive behavior by dominant firms are not diminished. Rather, the administrative proceedings suffer from as much information deficits as they did under the exclusive application of Sec. 19 GWB – at the cost of legal uncertainty and wrong incentives for market participants.[1461] The practical experience with the introduction of Sec. 29 first sentence N° 1 GWB confirms this result.

With regard to fine proceedings, it has been shown that a shift of the burden of proof to the potential infringers is against constitutional law[1462] and therefore no feasible tool to increase the probability of punishment. Yet, also with regard to administrative proceedings of the antitrust authorities and private damages claims, the disadvantages of this approach outweigh the marginal improvements in non-liquet situations by far.

The shift of the burden of proof to the potential infringers is therefore not suited to increase the probability of punishment and increase deterrence of market manipulations at the energy exchange.

V. Results for the public prosecution of manipulations

The comprehensive analysis of today´s public market surveillance scheme for market manipulations in complex scenarios has revealed one core weakness of the system: It concentrates almost exclusively on huge – and steadily increasing – amounts of fines to deter manipulations of the market.

This single-sided approach does however not lead to effective deterrence from an economic point of view: today´s fines create inefficiently high incentives for antitrust compliance and leave no room for other effective tools of antitrust deterrence, e.g. private damages claims. From a legal point of view, the current system of fining is in contrary to European and German constitutional law. Therefore, a new reference for the calculation of government fines was introduced, which is based on the expected profit of the firm from the infringement.

[1461] Monopoly Commission, Sondergutachten 47 - Preiskontrollen in Energiewirtschaft und Handel: Zur Novellierung des GWB, 2007, Ref. 16.
[1462] Beckmerhagen and Stadler, "Der Entwurf eines Gesetzes zur Bekämpfung von Preismissbrauch im Bereich der Energieversorgung," *et* Vol. 57, no. 1/2 (2007), 123.

With the optimal amount of government fines D_G decreasing, the probability of punishment p_p needs to increase to keep the balance of the deterrence equation:

$$\Delta\Pi = p_P(e) \cdot C_D.$$

Consequently, legal instruments to increase the probability of detection and punishment were analyzed, finding that neither a change of the method of proof from the comparable market approach towards a profit-based approach, nor a shift of the burden of proof to the infringers promises improvements in deterrence. Rather, a combined introduction of leniency for abuse cases together with financial rewards for whistleblowers is the preferable instrument to considerably increase the probability of punishment at the lowest cost. This system should therefore be implemented de lege lata based on the existing rules of the FCO and individual negotiations with whistleblowers. In addition and to fully support this approach, a legal basis for the financial compensation of whistleblowers should be introduced de lege ferenda.

C. Summary of the Third Chapter

The third chapter of this work started the examination of market surveillance instruments available to influence the market participants´ behavior prior to manipulations happening by a deterrent threat of sanctions. Those measures have the biggest potential to fight market manipulations in the short run because they do not require reforms of the market structure or the entrance of new competitors that both take effect only in the long run. Reforms in surveillance rules, by contrast, may take effect almost immediately.

However, the analysis revealed serious impediments to an efficient surveillance system: Most notably this is the sole focus on ever-increasing fines in the deterrence of market manipulations. In the field of public market surveillance, authorities concentrate almost exclusively on the amount of the fine in order to reach the necessary level of deterrence $\Delta\Pi$. This leads to inefficient deterrence from an economic point of view and infringes the principle of legal certainty laid down in EU and German constitutional law. Furthermore, it leaves almost no room for private market surveillance efforts in the shape of damages claims, whose potential to contribute to deterrence will be examined in the following fourth chapter.

Yet, there is an alternative to this economically inefficient and illegal approach to deterrence: Since the necessary level of deterrence $\Delta\Pi$ may not only be reached with an increase of the cost of detection C_D, but also a rise in the probability of punishment p_P,

$$\Delta\Pi = p_P(e) \cdot C_D,$$

a number of further legal tools are worth considering.

Those are namely a change of the method of proof from the comparable market approach towards a profit-based approach and a shift of the burden of proof to the infringers. Both approaches did however not yield convincing results in the legal analysis.

However, a combined introduction of leniency for abuse cases together with financial rewards for whistleblowers did. This instrument promises to considerably increase the probability of punishment at the lowest cost due to the implementation of a prisoner´s dilemma situation for market manipulators. This system should therefore be implemented de lege lata based on the existing rules of the FCO and individual negotiations with whistleblowers. In addition and to fully support this approach, a legal basis for the financial compensation of whistleblowers should be introduced de lege ferenda.

The following fourth chapter will concentrate on private market surveillance instruments that may – if combined effectively with the public surveillance instruments – result in a sufficient and cost-efficient level of deterrence to result in behavioral effects on the market participants taking effect before the offense is committed.

FOURTH CHAPTER: IMPROVED PRIVATE MARKET SURVEILLANCE

A. Introduction

"However, it is our aim that companies and individuals should increasingly feel encouraged to make use of private action before national courts in order to defend the subjective rights conferred on them by the EC competition rules."[1463]

Following up on the analysis of legal remedies to improve public market surveillance in the preceding chapter 3, this chapter focuses on the field of **private market surveillance** as a necessary complement to deter market manipulations[1464] using behavior control to overcome the shortcomings in enforcement. Other than with public market surveillance, it is not the authorities that take action against market participants being suspicious of manipulating the energy exchange, but private actors – e.g. competitors or firms from a downstream market. Since the effort put into the investigations of a suspected abuse directly pays off to the claimant in case of success, parties harmed have a strong incentive to invest in private market surveillance.[1465] Furthermore, it could be shown that private market participants do – in some respects – have better information on antitrust infringements that antitrust authorities do due to their market insight. This might hence be a driver for the detection of infringements that the authorities do not have knowledge of.[1466]

Diverse types of private damages claims will be examined for their suitability to deter market manipulations with regard to economic and legal criteria. Just as for the field of public market surveillance, it will be shown that there is a necessity for a coordination of capital market law and antitrust enforcement on the one hand and public and private activities on the other hand. The resulting claim for **an integrated legal system of public and private enforcement** will be introduced in the fifth chapter.

[1463] Mario Monti, former European Commissioner for Competition Policy in a speech on Effective Private Enforcement of EC Antitrust Law, 2001. Available on http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/01/258&format=HTML&aged=0&language=EN&guiLanguage=en (accessed January 29, 2013).
[1464] Hans-Wilhelm Krüger, *Öffentliche und private Durchsetzung des Kartellverbots von Art. 81 EG: Eine rechtsökonomische Analyse*, ed. Peter Behrens, et al., Ökonomische Analyse des Rechts (Wiesbaden: Deutscher Universitäts-Verlag, 2007), 319 et sqq.
[1465] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," *WuW* Vol. 61, no. 12 (2011), 1241. See also Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011).
[1466] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 621.

B. Private Market Surveillance

Private market surveillance is driven by the private interest of actors. With regard to firms, this interest is mostly of a monetary nature. In consequence, private actors often pursue their interests using damages claims against actors who infringed laws that are supposed to protect other partys´ interests. The diverse types of damages claims examined in this chapter are the following:

- Private damages claims of actors harmed by market manipulations against the manipulators according to Sec. 33 GWB and EU law in the field of antitrust, as well as capital market law (section I.);
- damages claims of firms against their directors for violations of the antitrust and capital market laws (section II).

I. Damages claims against the manipulators

Private claims for damages in case of infringements of the rules on market behavior may well accompany public enforcement efforts to effectively deter manipulations at the EEX.[1467] Since the authorities concentrate their efforts on a relatively small number of cases with paramount importance for the functioning of the European and/or German market,[1468] there is room for private efforts both to support the authorities interventions and to uncover cases not subject to an authority´s investigation. In fact, private damages claims may affect both variables of the deterrence equation – the cost of detection C_D and the probability of punishment $p_P(e)$ – introduced at the beginning of this chapter:

$$\Delta\Pi = D_E \text{ or}$$

$$\Delta\Pi = p_P(e) \cdot C_D.$$[1469]

[1467] Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadenersatz", *WuW* Vol. 61 (2011), N° 12, 1235. See also Andreas Mundt, "Kartellverfolgung im 21. Jahrhundert," in *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlag, 2011), 438. Earlier Feinberg, "The Enforcement and Effects of European Competition Policy: Results of a Survey of Legal Opinion," *Journal of Common Market Studies* Vol. 23, no. 4 (1985), 376.

[1468] Wernhard Möschel, "Behördliche oder privatrechtliche Durchsetzung des Kartellrechts?," *WuW* Vol. 57, no. 5 (2007), 489.

[1469] Please refer to sections B. and B.II. of this chapter for the derivation of the formulas.

Firstly, damages claims **increase the total cost of detection** firms face in case of a punishment,[1470] since this cost adds up from both criminal and civil sanctions the government imposes (D_G) *and* damages paid by the convicted firm to private claimants (D_P):[1471]

$$C_D = D_G + D_P.$$

In the following considerations, the focus lies on the private sanctions D_P. Criminal and civil sanctions imposed by the government D_G have been treated separately in subsection B of this chapter.[1472] Therefore, D_G is held constant in the following analysis:

$$D_G = \bar{D}_G.$$

Secondly, the private efforts to recover damages also increase the probability of punishment $p_p(e)$, which results in higher deterrence:

$$\frac{\partial p_p}{\partial e} > 0 \text{ and therefore } \frac{\partial \Delta \pi}{\partial e} > 0.^{1473}$$

The increase in p_p may however mainly be observed in cases of stand-alone damages actions. Those are claims where no public proceedings by the antitrust authority (FCO) or the capital market supervisor (BaFin) preceded.[1474] Most of today´s claims for antitrust damages are, by contrast, so-called follow-on damages claims that build on a preceding decision of the European Commission or the FCO.[1475] But even in follow-on damages claims, the fact that additional (private) agents invest resources in the detection and proof of infringements increases the probability of detection.[1476]

Moreover, the increase of the two decisive variables in the deterrence equation comes at a cost: As the next subsections will show, the collection of damages entails huge efforts from the part of the claimants.[1477] It needs therefore to be discussed from an efficiency

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[1470] Möschel, "Behördliche oder privatrechtliche Durchsetzung des Kartellrechts?," *WuW* Vol. 57, no. 5 (2007), 488.
[1471] Weller, "Die Anrechnung pönaler Schadensersatzleistungen gemäß § 33 GWB auf Kartellbußen," *ZWeR* Vol. 6, no. 2 (2008), 171.
[1472] See the third chapter of this work, section B.
[1473] For the derivation of this formula please refer to section B.IV.2. of this chapter.
[1474] Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 257.
[1475] Roman Inderst and Stefan Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 104. Refer also to Sebastian Dworschak and Lars Maritzen, "Einsicht - der erste Schritt zur Besserung? Zur Akteneinsicht in Kronzeugendokumente nach dem Donau Chemie-Urteil des EuGH," *WuW* Vol. 63, no. 9 (2013), 831.
[1476] Krüger, *Öffentliche und private Durchsetzung des Kartellverbots von Art. 81 EG: Eine rechtsökonomische Analyse*, ed. Behrens, et al., Ökonomische Analyse des Rechts (Wiesbaden: Deutscher Universitäts-Verlag, 2007), 323.
[1477] Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," *WuW* Vol. 61, no. 12 (2011), 1246.

perspective whether the advantages of private law enforcement outweigh this cost or legal respectively political reasons justify the application.[1478]

The examination starts with the definition of the relevant baseline scenario under the existing legal rules in both the EU and Germany and then turns to a critical review of the success of the existing legal framework.

1. Private damages claims: The baseline scenario

The law offers various statutory bases for claims both in antitrust and capital market law. This section will present the different approaches with their requirements and contributions to the surveillance of the energy market in an overview to judge whether private market surveillance is a successful complement to public enforcement or needs revision to work efficiently.

a) Damages claims in antitrust law

Damages claims in antitrust have recently taken a rapid development,[1479] mainly driven by EU efforts to establish a common set of rules on the subject for all member states in the directive on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union.[1480] The directive codifies the right for anybody who has suffered harm caused by an infringement of competition law by an undertaking [...] to claim full compensation for that harm, Art. 1(1) Directive 2014/104/EU. The detailed requirements for damages claims both in European and German law will be treated in the following sections.

[1478] Similar Justus Haucap and Torben Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," ibid Vol. 58, no. 4 (2008), 419. Critical Wernhard Möschel, "Behördliche oder privatrechtliche Durchsetzung des Kartellrechts?," ibid Vol. 57, no. 5 (2007).

[1479] Back in 2007, private damages claims in Europe and Germany were almost of no relevance. Refer to "Behördliche oder privatrechtliche Durchsetzung des Kartellrechts?," *WuW* Vol. 57, no. 5 (2007), 485. Today, the number of claims is increasing rapidly: Matteo Fornasier and Julian Alexander Sanner, "Die Entthronung des Kronzeugen?: Akteneinsicht im Spannungsfeld zwischen behördlicher und privater Kartellrechtsdurchsetzung nach Pfleiderer," ibid Vol. 61, no. 11 (2011), 1068.

[1480] European Parliament and European Council. *Directive on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union*. N° 2014/104/EU, EU Official Journal L 349, p. 1-19. Earlier, the European Commission had already published a green paper (2005) and a white paper (2008) on the subject: European Commission, Green Paper on Damages actions for breach of the EC antitrust rules, 2005, COM(2005) 672 final. White Paper on Damages actions for breach of the EC antitrust rules, 2008, COM(2008) 165 final.

aa) Damages claims in European antitrust law

Already in 2001, the European Court of Justice had derived the basis for damages claims in the field of antitrust from the European contract directly in its famous decisions *Courage*[1481] and *Manfredi*[1482]. Several other decisions[1483] – also on separate questions connected with damages, e.g. on the access to files ("Pfleiderer" and "Donau Chemie")[1484] or the liability for umbrella pricing of non-cartel firms ("Kone AG")[1485] – followed.

In an effort to increase the number and success of private damages claims, the European Parliament and Council issued a directive on antitrust damages actions in 2014.[1486] This directive shall create a harmonized framework for damages claims in Europe – the legal basis is, however, found in the individual national legal systems.[1487] The directive contains a comprehensive set of rules that provides the framework for private damages suits in detail. These are:

- The pool of potential claimants (Artt. 1(1), Art. 12(1) DIR 2014/104/EU),
- the scope of compensation (Art. 3 and 12 DIR 2014/104/EU),
- disclosure of evidence (Artt. 5-7 DIR 2014/104/EU),
- the relationship between public enforcement and private damages claims (namely the protection of the EU leniency program, Art. 6-7 DIR 2014/104/EU),
- proof of the violation of competition law (Artt. 9, 17(2) DIR 2014/104/EU),
- limitation periods (Art. 10 DIR 2014/104/EU),

[1481] *Courage Ltd v. Bernard Crehan*, Case C-453/99, European Court Reports 2001, I-6297 Ref. 26 et sqq. (European Court of Justice 2001).
[1482] *Manfredi v. Lloyd Adriatico Assicurazioni SpA*, Joined Cases C-295/04 to C-298/04, European Court Reports 2006, I-6619 (European Court of Justice 2006).
[1483] *Europese Gemeenschap v. Otis and Others*, Case C-199/11, ECLI:EU:C:2012:684 (European Court of Justice 2012). Also *Bundeswettbewerbsbehörde v. Donau Chemie and Others*, Case C-536/11, EU:C:2013:366 (European Court of Justice 2013).
[1484] *Pfleiderer AG v. Bundeskartellamt*, Case C-360/09, European Court Reports 2011, I-5161 (European Court of Justice 2011). Also *Bundeswettbewerbsbehörde v. Donau Chemie and Others, Case C-536/11, EU:C:2013:366 (European Court of Justice 2013).*
[1485] *Kone AG and Others v. ÖBB-Infrastruktur AG*, Case C-557/12, European Court Reports 2014, I general (European Court of Justice 2014).
[1486] Daniele Calisti, Luke Haasbeek, and Filip Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 467. See also Tilman Makatsch and Arif Sascha Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 7. Also Christian Kersting, "Die neue Richtlinie zur privaten Rechtsdurchsetzung im Kartellrecht," *WuW* Vol. 64, no. 6 (2014), 564.
[1487] Christian Vollrath, "Das Maßnahmenpaket der Kommission zum wettbewerbsrechtlichen Schadensersatzrecht," *NZKart* Vol. 1, no. 11 (2013), 437.

- joint liability (Art. 11 DIR 2014/104/EU),
- passing-on defense (Art. 12-13 DIR 2014/104/EU), and
- the quantification of harm (Art. 17 DIR 2014/104/EU).

The rules relevant to the considerations of this work are the pool of claimants and the scope of compensation, disclosure of evidence and the connected questions with regard to the leniency program practiced in public enforcement, the proof of violations and the quantification of harm.

(1) The pool of potential claimants

The pool of potential claimants has been defined wide by EU competition law: According to Art. 1(1) and 3(1) DIR 2014/104/EU, **anybody** who has suffered harm from an infringement of competition law is entitled to a damages action.[1488] Hence, market participants harmed by the abuse of a dominant position by way of manipulation of the energy exchange are entitled to damages suits in European law. In fact, not only the **direct purchasers** (Art. 2(23) DIR 2014/104/EU) of power products offered at artificially inflated prices may claim damages for their losses. Both European primary law (cases "Manfredi"[1489], "Otis"[1490] and "Kone AG"[1491]) and European secondary law (Artt. 12(1), 2(24) DIR 2014/104/EU) also entitle **indirect purchasers** to damages suits. The term refers to customers who have acquired the product that is the object of the infringement from a direct or subsequent purchaser, Art. 2(24) DIR 2014/104/EU. In the case of manipulations of the energy exchange this would refer to **all customers** who have bought power from one of the firms buying in the energy market while the price level is manipulated.

In fact, **any customer who has bought electricity** during a period when the energy exchange was manipulated, irrelevant of its size or purpose (households/industry) is entitled to damages claims according to European law. Since the exchange price serves as a

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[1488] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 7.
[1489] *Manfredi v. Lloyd Adriatico Assicurazioni SpA, Joined Cases C-295/04 to C-298/04, European Court Reports 2006, I-6619 Ref. 61 (European Court of Justice 2006).*
[1490] *Europese Gemeenschap v. Otis and Others, Case C-199/11, ECLI:EU:C:2012:684 Ref. 43 (European Court of Justice 2012).*
[1491] *Kone AG and Others v. ÖBB-Infrastruktur AG, Case C-557/12, European Court Reports 2014, I general Ref. 22 (European Court of Justice 2014).*

reference price for the main part of power products[1492], the manipulation of it causes harm not only to the direct customers at the exchange, but also to anybody who has made a contract using the EEX price as a reference, e.g. in the OTC market.

This wide interpretation of the pool of claimants is backed up by the directive, that address the right to full compensation to anyone who has suffered harm from an infringement of competition law, Art. 2(6) DIR 2014/104/EU. It also covers products or services that were derived from the object of the infringement or contain it, Art. 2(24) DIR 2014/104/EU. This definition includes manipulations of the market by firms possessing market power according to Art. 102 TFEU, Art. 2(1) DIR 2014/104/EU. Also, the European Court of Justice judgments strengthen this view: The court repeatedly emphasized the entitlement of claimants to damages in any constellation where a causal link between a cartel and the damage done could be proved. In the case *Kone AG* it even affirmed a causal link between an existing cartel and damage done due to umbrella pricing by non-cartel members.[1493]

Therefore, the pool of potential claimants for antitrust damages due to energy exchange price manipulations covers **all customers of power and power products**.

(2) The scope of compensation

The scope of compensation is defined in Art. 3 DIR 2014/104/EU. The directive aims at **full compensation** of the injured parties, granting damages that

> *"[...] place a person who has suffered harm in the position in which that person would have been had the infringement of competition law not been committed",*

Art. 3(2) first sentence DIR 2014/104/EU. Full compensation shall therefore cover the actual loss of the injured party, its loss of profits and interest, Art. 3(2) second sentence DIR 2014/104/EU. Punitive, multiple or other types of damages are not in scope of the directive, Art. 3(3) DIR 2014/104/EU.

Even if this approach to the scope of compensation looks efficient from the perspective of the individual claimant, it does not necessarily from a macroeconomic perspective. A consequent realization of the principle of full compensation for all parties harmed by an in-

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[1492] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 88. See also Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 90-91.
[1493] *Kone AG and Others v. ÖBB-Infrastruktur AG, Case C-557/12, European Court Reports 2014, I general Ref. 30 (European Court of Justice 2014).*

fringement of competition law might in fact lead to **overcompensation** in the macroeconomic perspective and create **inefficiently high levels of deterrence** for firms.[1494] The reason is a potential gap between the sum of the individual damage a competition law infringement causes and the macroeconomic damage: While the latter equals the **deadweight loss (DWL)** caused to the economy by price overcharges[1495] plus dynamic and productive efficiency losses and rent-seeking costs that are hardly quantifiable,[1496] the **sum of private losses (Σ PL)** adds up from the aggregated price overcharge paid by all purchasers per unit of the product and the aggregated losses that result from the decrease in the quantity sold in downstream markets due to the higher price (quantity effect).

Hence, the consequence might lead to a situation where the aggregated private losses exceed the losses to the economy as a whole from price overcharges:[1497]

$$\Sigma \text{ PL} > \text{DWL},$$

$$\text{with } \Sigma \text{ PL} = D_P.$$

In this scenario, the deterrent effect from private damages suits equals

$$p_P(e) \cdot \Sigma \text{ PL},$$

which results in an expected damage for infringers higher than the change in profits from the infringement, thus higher than the economically efficient level:

$$\Delta\Pi < p_P(e) \cdot (D_P + \bar{D}_G).$$

While this inefficiency does not harm the effectivity of antitrust deterrence, it does cause unnecessarily high costs to the economy that stem from too high investments in antitrust deterrence on the side of the authorities and claimants and too high compliance costs on the side of the firms.[1498]

[1494] Haucap and Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," *WuW* Vol. 58, no. 4 (2008), 414, 419.
[1495] Mankiw, *Principles of Economics*, 5th ed. (Mason, Ohio: South-Western, 2008), 367. Refer also to the introductory first chapter, section D.I.3.a) of this work.
[1496] Gordon Tullock, "The Welfare Costs of Tariffs, Monopolies, and Theft," *Western Economic Journal* Vol. 5, no. 3 (1967), 224. Refer also to Motta, Competition Policy : Theory and Practice (Cambridge: Cambridge Univ. Press, 2004), 45 et sqq., 55 et sqq.
[1497] Roman Inderst, Frank Maier-Rigaud, and Ulrich Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Andreas Fuchs and Andreas Weitbrecht(München: C.H. Beck, 2016), 8 (not yet published).
[1498] Haucap and Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," *WuW* Vol. 58, no. 4 (2008), 419. Similar Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," ibid Vol. 61, no. 12 (2011), 1246.

The directive targets this problem in Art. 3(3) DIR 2014/104/EU that clarifies that full compensation shall not lead to overcompensation of the injured parties.[1499] Yet, this may only be guaranteed for the compensation of the damage done to an individual business. The rule does not solve the problem of the aggregated damages done to individual businesses exceeding the damage done to the economy as a whole.

However, this problem is rather a theoretical one: In practice, damage from market manipulation is spread over a vast number of buyers who have suffered dispersed and relatively low-value damage. The incentive to invest in the recovery of the damage in correspondingly low for these parties.[1500] Hence, one can assume that in practice not all of the damage caused by a manipulative act will be claimed.[1501]

With regard to the exemplary case of **excessive pricing at the energy exchange**, damage is done to the wholesale buyers who bought at the higher prices in the first place. This damage is the difference in price (Δp) between the overcharged price p_O and the competitive price (p*) times the quantity bought.[1502]

$$\Delta p \cdot x_i = (p_O - p^*) \cdot x_i.$$

However, since those buyers mainly resell their power in smaller quantities to local retailers or end-customers – thereby passing the overcharged price (at least partly) on to them – the damage is spread on this level. Furthermore, the quantities of power resold by the wholesale buyers might sink in the event of overcharged prices (quantity effect) – leaving them with lower revenues (R_O) than would have been realized in a competitive market environment:[1503]

$$\Delta R_O = \left(\frac{\Delta x_i}{\Delta p} \cdot p_O\right) - (x_i \cdot p^*).$$

[1499] Christian Kersting, "Die neue Richtlinie zur privaten Rechtsdurchsetzung im Kartellrecht," ibid Vol. 64, no. 6 (2014), 564.
[1500] Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 256.
[1501] Florian Becker, "Die Durchsetzung von kartellrechtlichen Schadensersatzansprüchen: Rahmenbedingungen und Reformansätze," *EuZW* Vol. 22, no. 13 (2011), 508. See also Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 260.
[1502] Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 250. Also Haucap and Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," *WuW* Vol. 58, no. 4 (2008), 420. See also Alexander Morell, "Kartellschadensersatz nach "ORWI"," ibid Vol. 63, no. 10 (2013), 960. For the application to abuse cases see Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht(München: C.H. Beck, 2016), 24 (not yet published).
[1503] Haucap and Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," *WuW* Vol. 58, no. 4 (2008), 420-421. Also Alexander Morell, "Kartellschadensersatz nach "ORWI"," ibid Vol. 63, no. 10 (2013), 960.

The extent of this effect depends on several factors, namely the intensity of competition without disturbances, the size of the market and the elasticity of demand.[1504] At the energy exchange, competition used to be of low intensity during the time of the powerful oligopoly. This situation is, however, about to change, due to the priority feed-in of renewable energy that is changing the course of the merit order[1505].

As experience shows, the elasticity of demand is rather low in the power market in the short term, especially in the group of the private end customers – which mirrors in the wholesale market.[1506] Therefore, price overcharges may cause considerable individual damage in the power market, which results in a high incentive for the injured parties to sue the manipulators.[1507] However, the damage is spread over a huge number of customers in the power market, many of them private households with small losses that will not be worth claiming in court due to the high risk and cost involved.[1508] The risk of private damages claims causing an inefficiently high level of deterrence seems therefore rather theoretical in the example chosen, but surely also with regard to other manipulation cases, even if full compensation according to the directive is granted.

(3) The disclosure of evidence and the proof of violations

One of the main requirements for claimants is the access to evidence in order to prove violations of competition law and the emergence of damage to the claimant in court. Therefore, the rules on the disclosure of evidence are one of the key elements in the antitrust damages directive. Their design is decisive for the success of private market surveillance in antitrust.[1509]

Basically, the directive distinguishes between three distinct categories of evidence with various levels of protection:

[1504] Justus Haucap and Torben Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," ibid Vol. 58, no. 4 (2008), 417.
[1505] Fürsch, Malischek, and Lindenberger, "Der Merit-Order-Effekt der erneuerbaren Energien - Analyse der kurzen und langen Frist," EWI Working Paper Vol., no. 12/14 (2014), 3, 22. Refer also to Kopp, Eßer-Frey, and Engelhorn, "Können sich erneuerbare Energien langfristig auf wettbewerblich organisierten Strommärkten finanzieren?," *Zeitschrift für Energiewirtschaft* Vol. 36, no. 2 (2012), 245.
[1506] Elberg et al., "Untersuchungen zu einem zukunftsfähigen Strommarktdesign," (2012), 7. See also Erdal Atukeren and Banu Simmons-Süer, "Elektrizitätsnachfrage nur wenig elastisch," *Ökonomenstimme* (2011).
[1507] Haucap and Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," *WuW* Vol. 58, no. 4 (2008), 419. Also Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht(München: C.H. Beck, 2016), 9 (not yet publsished).
[1508] In general on low-value damage Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 12.
[1509] Vollrath, "Das Maßnahmenpaket der Kommission zum wettbewerbsrechtlichen Schadensersatzrecht," *NZKart* Vol. 1, no. 11 (2013), 443-444.

- **No disclosure** is possible for leniency statements and settlement submissions included in the file of a competition authority, Art. 6(6)(a) and (b) DIR 2014/104/EU.[1510]

- **Limited disclosure** is granted for other pieces of evidence included in the file of a competition authority: In case no third party is reasonably able to provide the evidence, and the disclosure is proportionate, the authority will grant access, Art. 6(1), (10) and (4) DIR 2014/104/EU.[1511]

- **Disclosure** of other specified items of evidence is ordered by the national courts on the claimants' request. The evidence or category of evidence needs to be "circumscribed as precisely and narrowly as possible on the basis of reasonably available facts". Disclosure is only limited by the principle of proportionality with regard to scope and cost of disclosure, confidentiality of the information, amongst other things,[1512] Art. 5(2) and (3) DIR 2014/104/EU.

In summary, the access to evidence according to the directive is rather restrictive. Artt. 5 to 7 DIR 2014/104/EU significantly impair the proof of damages claims in antitrust, especially in cases where parties subject to the leniency program are involved.[1513] Therefore, there are doubts on whether the directive is in accordance with primary EU law: The European Court of Justice, in its famous decision *Pfleiderer*, has ruled that the interest in disclosure by the injured parties has to be weighed against the interest in the protection of the leniency documents in any individual case by the national courts.[1514] The ECJ decision in the case *Donau Chemie* has confirmed the need to weigh the individual case.[1515] A categorical exclusion of disclosure is therefore not acceptable in the light of Art. 101 TFEU and the corresponding jurisdiction in primary EU law.[1516]

[1510] Peter Gussone and Tilmann M. Schreiber, "Private Kartellrechtsdurchsetzung: Rückenwind aus Europa? Zum Richtlinienentwurf der Kommission für kartellrechtliche Schadensersatzklagen," *WuW* Vol. 63, no. 11 (2013), 1045. Also Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 9.

[1511] Calisti, Haasbeek, and Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 467.

[1512] Ibid.

[1513] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 9.

[1514] *Pfleiderer AG v. Bundeskartellamt, Case C-360/09, European Court Reports 2011, I-5161 Ref. 30 et sqq. (European Court of Justice 2011).* Refer also to Thorsten Mäger, Daniel J. Zimmer, and Sarah Milde, "Chance vertan? - Zur Akteneinsicht in Kartellakten nach dem Pfleiderer-Urteil des EuGH," *WuW* Vol. 61, no. 10 (2011), 936.

[1515] *Bundeswettbewerbsbehörde v. Donau Chemie and Others, Case C-536/11, EU:C:2013:366 Ref. 31 and 42-49 (European Court of Justice 2013).*

[1516] Fornasier and Sanner, "Die Entthronung des Kronzeugen?: Akteneinsicht im Spannungsfeld zwischen behördlicher und privater Kartellrechtsdurchsetzung nach Pfleiderer," *WuW* Vol. 61, no. 11 (2011), 1072. See also Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 9.

Hence, the regime for the disclosure of evidence is a limiting factor when it comes to the efficiency of private damages claims in European antitrust law. Especially in the energy market manipulation, only the manipulator himself is holding the crucial data on plant utilization and cost of production that will be needed to assess the scope of the price deviation and the damage suffered by the injured parties. Therefore, the existing rules on the disclosure of evidence need revision in order to work efficiently. Proposals in this regard will be discussed subsequently in the fifth chapter of this work.

(4) The quantification of the harm

Another topic closely connected to the collection of evidence is the quantification of the damage done to the individual injured party through the energy market manipulation. While the directive contains a rebuttable presumption that cartel infringements cause damage in Art. 17(2) DIR 2014/104/EU, it remains a task of the claimants to show the scope of the damage.[1517] For the case of market manipulations, there is no such presumption. Hence, the burden of proof for both the emergence of damage and the scope of the damage done lies with the injured party.[1518]

Art. 17(1) DIR 2014/104/EU empowers national courts to the **estimation** of the amount of harm in cases "where it is practically impossible or excessively difficult precisely to quantify the harm suffered on the basis of the evidence available".[1519] Also, the directive provides for the right of a national court to request the assistance of a national competition authority with regard to the determination of damages, Art. 17(3) DIR 2014/104/EU.[1520]

In practice, the courts require substantiated estimates of the scope of damage: Claimants need to offer data on the hypothetical competitive price in the manipulated market.[1521] Since the claimants do often not know this price, they will have to rely on formal models on competition in this market. This may be the same geographical and product market,

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[1517] Calisti, Haasbeek, and Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 469. See also Christian Vollrath, "Das Maßnahmenpaket der Kommission zum wettbewerbsrechtlichen Schadensersatzrecht," ibid Vol. 1, no. 11 (2013), 440.

[1518] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 138. Refer also to René Galle, "Der Anscheinsbeweis in Schadensersatzfolgeklagen - Stand und Perspektiven," *NZKart* Vol. 4, no. 5 (2016), 214.

[1519] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 8.

[1520] Calisti, Haasbeek, and Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 469.

[1521] Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht(München: C.H. Beck, 2016), 35 (not yet published).

yet at another point in time when no manipulations took place. Alternatively, comparable geographical or (similar) product markets may provide data on the competitive price.[1522] In order to offer some guidance for judges and plaintiffs, the European Commission published a **Practical Guide on Quantifying Harm** in Actions for damages based on breaches of Article 101 or 102 of the TFEU[1523] in 2013.[1524] It contains an overview of the different types of harm caused by competition infringements, information on methods and techniques to quantify the harm, including their strengths and weaknesses and also practical examples to illustrate typical effects of competition law infringements.[1525] The guide is, however, not binding to national courts and parties, but purely informative.[1526] It remains the task of the claimants to decide which approach to the quantification of harm is appropriate in every individual case – depending on the available data,[1527] the cost and time involved, as well as the proportionality with regard to the value of the damages claim.[1528]

Having regard to the example of **manipulations of the energy exchange**, the counterfactual scenario would have to estimate the non-infringement price of power and the loss in profits due to the volume effect.[1529] Methodically, claimants may use data from a period before or after the manipulations took place (comparison over time on the same market), if available.[1530] Since it is, however, not clear, when exactly the manipulations started and ended, the estimation of the counterfactual price based on this approach might carry too many uncertainties and outside factors.[1531] Comparisons with other products seem unsuitable for the power market, since there is hardly any comparable product with the same

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[1522] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 139. Refer also to Reinhard Ellger, "Kartellschaden und Verletzergewinn," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos Verlagsgesellschaft, 2011), 202.

[1523] European Commission, Commission Staff Working Document – Practical Guide on Quantifying Harm in Actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 2013, SWD(2013) 205.

[1524] Communication from the Commission on quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 2013, C(2013) 3440 Ref. 11.

[1525] Ibid, Ref. 11, 15.

[1526] Ibid, Ref. 12.

[1527] Anna Maria Doose, "Methods for Calculating Cartel Damages: A Survey," *ZWeR* Vol. 12, no. 3 (2014), 283, 285.

[1528] European Commission, Communication from the Commission on quantifying harm in actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 2013, C(2013) 3440 Ref. 14. See also Doose, "Methods for Calculating Cartel Damages: A Survey," *ZWeR* Vol. 12, no. 3 (2014), 297.

[1529] European Commission, Commission Staff Working Document – Practical Guide on Quantifying Harm in Actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 2013, SWD(2013) 205 Ref. 128.

[1530] Ibid, Ref. 21, 38.

[1531] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 145.

characteristics[1532] (e.g. lacking storability of the product) in a comparable market environment (e.g. number of competitors or market structure).[1533] Also with regard to geographical comparisons, the power market does not seem suited: Even though the wholesale market for power is national in scope,[1534] there are huge differences between the German power market and neighboring markets in e.g. France or Poland, that differ considerably in the structure of production – the comparison loses validity.[1535]

In case none of the techniques named above is successful in quantifying the harm from the manipulations, claimants will have to rely on empirical comparisons that abstract from a concrete comparable market and calculate the counterfactual price based on the data available.[1536] Those techniques include simple methods like the comparison of averages, interpolation and extrapolation, cost-based methods, profitability analyses, as well as highly complex techniques like multivariate regression or the use of models from the field of industrial organization. There will be no further analysis of the strengths and weaknesses of the techniques named in this work[1537], also because the use of an individual technique depends on the special characteristics of the individual manipulation case. It needs yet to be said that the quality of the results all of them deliver depends on the data that is available for the analysis: The less data is available, the more the estimation needs to rely on surcharges and reductions. The result becomes rather vague and will not be accepted as substantiated proof in court.[1538]

Hence, claimants require lots of information on the market, pricing and cost of the manipulators in order to successfully proof the harm done to them by the competition law infringement. Under the current regime for the disclosure of proof introduced above, claimants face difficulties with the proof of the harm done by a competition law infringement. The effectiveness of private market surveillance is therefore rather low. This problem will be discussed in more depth in the following section on the interplay of public and private antitrust prosecution.

[1532] Ibid, 152.

[1533] Ibid.

[1534] For the comparability of geographical markets refer to European Commission, Commission Staff Working Document – Practical Guide on Quantifying Harm in Actions for damages based on breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 2013, SWD(2013) 205 Ref. 51.

[1535] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 148.

[1536] Ibid, 155 et sqq.

[1537] For further information on the methods named refer to ibid. See also Peter Davis and Eliana Garcés, *Quantitative Techniques for Competition and Antitrust Analysis* (Princeton: Princeton University Press, 2010), 347 et sqq. Also refer to Doose, "Methods for Calculating Cartel Damages: A Survey," *ZWeR* Vol. 12, no. 3 (2014), 282 et sqq.

[1538] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 201. See also Vollrath, "Das Maßnahmenpaket der Kommission zum wettbewerbsrechtlichen Schadensersatzrecht," *NZKart* Vol. 1, no. 11 (2013), 441. Refer also to Doose, "Methods for Calculating Cartel Damages: A Survey," *ZWeR* Vol. 12, no. 3 (2014).

(5) The interplay between public enforcement and private damages claims

The second main objective of the European Commission with the introduction of the directive on antitrust damages actions in 2013 was the improvement of the interplay between public and private antitrust prosecution.[1539] The urgency of the harmonization of the two instruments of market surveillance has already been indicated in the preceding sections on the disclosure of proof and the estimation of the damage done with the competition law infringement.[1540]

The directive addresses the problem of conflicting incentives between public and private enforcement in several ways:

(1) With regard to the **detection and proof of competition law infringements**:

- On the one hand, restrictive rules on the disclosure of evidence against firms that cooperated in the leniency program (Art. 6(6) and Art. 7 DIR 2014/104/EU) that shall secure the incentives for firms to apply for leniency without having to fear damages claims that exceed the gains from the leniency application with regard to the fine[1541], and

- the significant evidentiary value of Commission and national decisions in subsequent civil actions for damages that are binding for the national courts on the other hand, Art. 16(1) of Regulation N° 1/2003 and Art. 9 DIR 2014/104/EU.[1542]

(2) Also with regard to the **limitation periods for follow-on damages actions**: Limitation is suspended or interrupted in case of ongoing public investigations, Art. 10(4) DIR 2014/104/EU.[1543]

[1539] Calisti, Haasbeek, and Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 469. See also *European Parliament and European Council. Directive on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union. N° 2014/104/EU, EU Official Journal L 349, 1-19.*

[1540] With regard to the general conflict between public and private enforcement see also Thomas Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," *WuW* Vol. 62, no. 5 (2012), 485.

[1541] Argument of advocate general *Mazáks* in the case *Pfleiderer*. See Thorsten Mäger, Daniel J. Zimmer, and Sarah Milde, "Chance vertan? - Zur Akteneinsicht in Kartellakten nach dem Pfleiderer-Urteil des EuGH," ibid Vol. 61, no. 10 (2011), 938.

[1542] Calisti, Haasbeek, and Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 469.

[1543] Ibid, 470.

(3) Finally, the directive sets **limitations to joint and several liability for immunity recipients** under the leniency program, Art. 11(4) to 11(6) DIR 2014/104/EU.[1544]

While the directive was supposed to improve the conditions for damages claims of injured parties, a look on the above-named rules may cast doubt on the effectiveness of the provisions. Namely with regard to the disclosure of evidence in cases where immunity recipients are involved, claimants will categorically be excluded from access to documents in the file of the competition authority. The private enforcement of competition law becomes practically impossible in cases where claimants require these documents to prove their claim.[1545] As has been indicated before in the section on the disclosure of evidence, it remains however to be seen whether the absolute protection of leniency statements in the file of the competition authority is in line with European primary law, namely with regard to the ECJ decisions in the cases *Pfleiderer*[1546] and *Donau Chemie*[1547] that require the individual weighing of the conflicting interests in each case explicitly.[1548]

(6) Summary of the results

The analysis of the legal framework for damages claims in Europe has shown, that in spite of the considerable effect on antitrust deterrence there remains much to be done in order to make private market surveillance work efficiently.[1549] Namely, the balance between the public interest in the protection of the leniency program and the interest of private claimants in disclosure of evidence needs to be improved.[1550] Even if this problem is much less severe in manipulation cases, where the leniency programs of both EU and

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[1544] Ibid, 472.

[1545] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 9.

[1546] *Pfleiderer AG v. Bundeskartellamt, Case C-360/09, European Court Reports 2011, I-5161 (European Court of Justice 2011).*

[1547] *Bundeswettbewerbsbehörde v. Donau Chemie and Others, Case C-536/11, EU:C:2013:366 (European Court of Justice 2013).*

[1548] Vollrath, "Das Maßnahmenpaket der Kommission zum wettbewerbsrechtlichen Schadensersatzrecht," *NZKart* Vol. 1, no. 11 (2013), 446. Refer also to Gussone and Schreiber, "Private Kartellrechtsdurchsetzung: Rückenwind aus Europa? Zum Richtlinienentwurf der Kommission für kartellrechtliche Schadensersatzklagen," WuW Vol. 63, no. 11 (2013), 1048. Also Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 9.

[1549] Florian Becker, "Die Durchsetzung von kartellrechtlichen Schadensersatzansprüchen: Rahmenbedingungen und Reformansätze," ibid Vol. 22, no. 13 (2011), 509. Refer also to Ellger, "Kartellschaden und Verletzergewinn," in Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos Verlagsgesellschaft, 2011), 199.

[1550] Gussone and Schreiber, "Private Kartellrechtsdurchsetzung: Rückenwind aus Europa? Zum Richtlinienentwurf der Kommission für kartellrechtliche Schadensersatzklagen," *WuW* Vol. 63, no. 11 (2013), 1057. Also Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 13.

FCO do not apply to date,[1551] the imbalance between public and private interests in antitrust deterrence needs to be resolved. Corresponding proposals for changes in the legal framework are presented in the following fifth chapter.

bb) Damages claims in German antitrust law

This section treats damages claims in German antitrust law. Since the German legislator needed to transpose DIR 2014/104/EU into national law,[1552] there was, however, not much room for deviations from the legal requirements just presented in the section on European law.

(1) The pool of potential claimants

Sec. 33a(1) GWB contains the basis for damages claims in German national law.[1553] *Anybody* who suffered harm from a competition law infringement may claim the damage he suffered – German law is in line with the European *Courage* decision.[1554] The German Federal Court of Justice found in its famous *ORWI* decision that this wide range of potential claimants includes indirect buyers on downstream markets, e.g. end customers.[1555] Therefore, the pool of potential claimants in German law mirrors the wide interpretation of claimants in European law: Anybody who suffered a deterioration of his legitimate chances in the market is considered to be affected by the infringement of competition law.[1556] For the example of the European Energy Exchange, just as in European law, any customer who has bought electricity at a time when the EEX prices were potentially manipulated is entitled to damages claims in German law. Also, buyers of OTC products, where the exchange price serves as a reference,[1557] are potential claimants.

[1551] Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 479. Refer also to section B. IV. 2. a) of this chapter.
[1552] Calisti, Haasbeek, and Kubik, "The Directive on Antitrust Damages Actions: Towards a stronger competition culture in Europe, founded on the combined powers of public and private enforcement of the EU competition rules," *NZKart* Vol. 2, no. 12 (2014), 472.
[1553] For the legal situation before the transformation of the antitrust damages directive Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 19.
[1554] Volker Emmerich, "Wettbewerbsrecht," ed. Ulrich Immenga and Ernst-Joachim Mestmäcker, 5th ed. (München: C.H. Beck, 2014), Sec. 33 GWB Ref. 14, 18.
[1555] *ORWI*, Case KZR 75/10, BGHZ 190, 145 Ref. 16, 151, 23 et sqq. (German Federal Court of Justice 2011). See also Martin Buntscheck, ""Private Enforcement" in Deutschland: Einen Schritt vor und zwei Schritte zurück," *WuW* Vol. 63, no. 10 (2013), 950.
[1556] Emmerich, "Wettbewerbsrecht," ed. Immenga and Mestmäcker, 5th ed. (München: C.H. Beck, 2014), Sec. 33 Ref. 15.
[1557] Jörg Spicker, *Handbuch Energiehandel*, 2nd ed., ed. Hans-Peter Schwintowski (Berlin: Erich Schmidt Verlag, 2010), 88. See also Brunke, *Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011), 90-91.

(2) The scope of compensation

The **scope of compensation** is determined according to Sec. 249 to 252 BGB.[1558] Accordingly, the injured party may claim any damage that emerged from the competition law infringement adequately causally.[1559] The specific extent of damage is determined by means of the so-called balancing method (Differenzmethode).[1560] Hence, the injured party receives compensation that equals the presumable situation without the competition law infringement. Therefore, the hypothetical market situation in a competitive environment is the benchmark for the determination of damages. This result meets the ECJ standards in the case *Manfredi*[1561], where the court found that not only the pecuniary loss from the increase in prices (damnum emergens), but also the loss in profit (lucrum cessans) – Sec. 252 BGB – and interest – Sec. 33a(4) first sentence GWB with reference to Sec. 288, 289 first sentence BGB – need to be paid by the injurer.[1562]

(3) Proving the claim: The access to evidence

As has been shown for the European case, the success of private antitrust enforcement depends on the rules on the disclosure of evidence and the requirements that the legislator sets for the quantification of the harm done. Basically, claimants need to prove the prerequisites of the legal basis of their claim, here Sec. 33a(1) in connection with Sec. 33(1) GWB.[1563] Having regard to the proof of a cartel damages claim, Sec. 33b GWB contains a rule on the binding effect of decisions of the antitrust authorities in antitrust cases.[1564] However, this rule only refers to the existence of an antitrust infringement and does not cover the causality of the damage and its scope,[1565] which are both subject to

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[1558] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 83. See also Melanie Meyer and Regina Zorn, "Kartellrechtliche Schadensersatzansprüche in Bezug auf Netznutzungsentgelte - Beweislast und Durchsetzbarkeit," *N&R* Vol. 7, no. 3 (2010), 129.

[1559] Emmerich, "Wettbewerbsrecht," ed. Immenga and Mestmäcker, 5th ed. (München: C.H. Beck, 2014), Sec. 33 Ref. 50.

[1560] Ellger, "Kartellschaden und Verletzergewinn," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos Verlagsgesellschaft, 2011), 200.

[1561] *Manfredi v. Lloyd Adriatico Assicurazioni SpA*, Joined Cases C-295/04 to C-298/04, European Court Reports 2006, I-6619 Ref. 92, 95, 97 et sqq. (European Court of Justice 2006).

[1562] With reference to the legal situation before the transformation of the antitrust damages directive into German law Ibid, Sec. 33 Ref. 50. Refer also to Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 83 et sqq.

[1563] Meyer and Zorn, "Kartellrechtliche Schadensersatzansprüche in Bezug auf Netznutzungsentgelte - Beweislast und Durchsetzbarkeit," *N&R* Vol. 7, no. 3 (2010), 127.

[1564] For the comparable rule before the transformation of the directive into German law see Peter Gussone, "OLG Hamm: Recht der Zivilgerichte auf Einsicht in Akten über Kartellordnungswidrigkeiten," *Betriebs-Berater* Vol. 69, no. 10 (2014), 533.

[1565] Fornasier and Sanner, "Die Entthronung des Kronzeugen?: Akteneinsicht im Spannungsfeld zwischen behördlicher und privater Kartellrechtsdurchsetzung nach Pfleiderer," *WuW* Vol. 61, no. 11 (2011), 1077. See also Martin Buntscheck, ""Private Enforcement" in Deutschland: Einen Schritt vor und zwei Schritte zurück," ibid Vol. 63, no. 10 (2013), 951.

the free appraisal of evidence by the civil courts.[1566] Therefore, claimants for damages depend on the law to get access to the evidence they need to prove their claim.

With regard to the **disclosure of evidence**, German law needs to comply with the requirements of primary and secondary (Directive 2014/104/EU) EU law. Before the transformation of the antitrust damages directive into German law, access to files was granted according to Sec. 406e German Code of Criminal Procedure (Strafprozessordnung, StPO) and Sec. 46 OWiG. Claimants needed to show a *legitimate interest*, e.g. the preparation of a private damages claim.[1567] However, access to the files could be denied in case of prevailing interests of the affected parties – Sec. 406e(2) first and second sentence StPO –,[1568] e.g. in cases where immunity recipients were involved, as the district court Bonn found in the case *Pfleiderer II*.[1569] The Higher Regional Court Düsseldorf ruled similarly in its *Kaffeeröster* decision.[1570] Also, the FCO explicitly grants protection of leniency statements against third parties to immunity recipients in its leniency notice (Ref. 22). Any other decision would hence violate the legitimate expectations of immunity recipients.[1571]

However, the Higher Regional Court Hamm decided differently and ruled that the public prosecutor´s office needed to grant access to the files to the civil court that needed to decide on a damages claim due to an infringement of competition law, *even if the file contains leniency applications.*[1572] The judgment was confirmed by the German Federal Constitutional Court (BVerfG).[1573] Yet, the facts of the case at Higher Regional Court Hamm were different: Other than in the cases *Pfleiderer II* and *Kaffeeröster*, not a plaintiff was

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[1566] Rüdiger Harms and Alex Petrasincu, "Die Beiziehung von Ermittlungsakten im Kartellzivilprozess - Möglichkeit zur Umgehung des Schutzes von Kronzeugenanträgen?," *NZKart* Vol. 2, no. 8 (2014), 304. Also Jens Steger, "Zugang durch die Hintertüre? - zur Akteneinsicht in Kronzeugenanträge von Kartellanten," *Betriebs-Berater* Vol. 69, no. 17 (2014), 963.

[1567] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 370.

[1568] Harms and Petrasincu, "Die Beiziehung von Ermittlungsakten im Kartellzivilprozess - Möglichkeit zur Umgehung des Schutzes von Kronzeugenanträgen?," *NZKart* Vol. 2, no. 8 (2014), 304.

[1569] *Pfleiderer II*, Case 51 GS 53/09, WuW/E DE-R, 3499 (District Court Bonn 2012). See also Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," WuW Vol. 62, no. 5 (2012), 477. Negating the subsumtion of leniency cases under Sec. 406e(2) StPO: Matteo Fornasier and Julian Alexander Sanner, "Die Entthronung des Kronzeugen?: Akteneinsicht im Spannungsfeld zwischen behördlicher und privater Kartellrechtsdurchsetzung nach Pfleiderer," ibid Vol. 61, no. 11 (2011), 1075.

[1570] *Kaffeeröster*, Cases V-4 Kart 5/11 (OWi), V-4 Kart 6/11 (OWi), 4 Kart 5/11 (OWi), 4 Kart 6/11 (OWi), WuW/E DE-R, 3662 Ref. 44 et sqq. (Higer Regional Court Düsseldorf 2012).

[1571] Mäger, Zimmer, and Milde, "Chance vertan? - Zur Akteneinsicht in Kartellakten nach dem Pfleiderer-Urteil des EuGH," *WuW* Vol. 61, no. 10 (2011), 941. Critical Thomas Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," ibid Vol. 62, no. 5 (2012), 480.

[1572] *Unnamed Decision*, Cases III-1 VAs 116 - 120/13, III-1 VAs 116/13, III-1 VAs 117/13, III-1 VAs 118/13, III-1 VAs 119/13, III-1 VAs 120/13, III-1 VAs 122/13, 1 VAs 116 - 120/13, 1 VAs 116/13, 1 VAs 117/13, 1 VAs 118/13, 1 VAs 119/13, 1 VAs 120/13, 1 VAs 122/13, WuW/E DE-R, 4101 Ref. 36 et sqq. (Higher Regional Court Hamm 2013).

[1573] *Unnamed Decision*, Cases 1 BvR 3541/13, 1 BvR 3543/13, 1 BvR 3600/13, WuW/E DE-R, 4213 Ref. 31 (German Federal Constitutional Court 2014). Also Steger, "Zugang durch die Hintertüre? - zur Akteneinsicht in Kronzeugenanträge von Kartellanten," *Betriebs-Berater* Vol. 69, no. 17 (2014), 964.

demanding access to the files, but the court itself according to Sec. 474 et sqq. StPO.[1574] Furthermore, the court´s access to the files did not yet decide about their actual utilization in the case, which was up to the receiving civil court (so-called "Doppeltürmodell"). This decision is to be taken for every individual case, balancing the interest in effective judicial protection and the protection of secrets.[1575] In consequence, the Hamm decision did therefore not fully contradict the earlier decisions of Bonn (*Pfleiderer II*) and Düsseldorf (*Kaffeeröster*).

After the transformation of the European antitrust damages directive into German law, Sec. 33g GWB contains comprehensive rules on the access to evidence.[1576]

(4) The quantification of the damage

Claimants need to put a number on the harm done to them by the competition law infringement, Sec. 286 ZPO (necessity of full proof).[1577] Just as described above for the European requirements, the injured parties face problems to precisely number the damage done by the infringer.[1578] This situation is worsened by the restrictive practice of the FCO and the courts with regard to the access to files containing leniency statements described in the preceding section. In German law, Sec. 33a(2) first sentence GWB contains a rebuttable presumption that a cartel causes damage. Yet, this presumption alone does not assist claimants in quantifying their damage. Furthermore, it only refers to cartel agreements and not to manipulation cases that are treated in this work. Rather, Sec. 33a(3) GWB in connection with Sec. 287 ZPO requires at least the estimation of the harm done by the court in cases where the exact quantification of the harm suffered is practically impossible or excessively difficult.[1579]

[1574] "Zugang durch die Hintertüre? - zur Akteneinsicht in Kronzeugenanträge von Kartellanten," *Betriebs-Berater* Vol. 69, no. 17 (2014), 964.
[1575] Ibid, 967.
[1576] Andreas Rosenfeld and Peter-Andreas Brand, "Die neuen Offenlegungsregeln für Kartellschadensersatzansprüche nach der 9. GWB-Novelle," *WuW* Vol. 67, no. 5 (2017), 248.
[1577] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 138.
[1578] Ibid, 210. See also Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 250.
[1579] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 8. Refer also to Galle, "Der Anscheinsbeweis in Schadensersatzfolgeklagen - Stand und Perspektiven," *NZKart* Vol. 4, no. 5 (2016), 219. Refer also to *LOTTOBLOCK II*, Case KZR 25/14, NSW GWB § 33, Ref. 41 et sqq. (German Federal Court of Justice 2016).

The estimation of the damage needs to be based on actual reference points[1580] (e.g. verifiable facts like the price actually paid[1581] as compared to a hypothetical competitive price found with econometric methods[1582], or the profit of the infringer (Sec. 33a(3) second sentence GWB)[1583]). The estimation according to Sec. 287 ZPO needs to refer to the minimal damage, which corresponds to the difference between the actual and the hypothetical price that would have to be paid with reasonable certainty in case the manipulation did not happen.[1584] In practice, this requires comprehensive economic expertise on the side of both the claimants (e.g. supported by expert opinions) and on the side of the judges.[1585] Expert witnesses will have to present a comparison between the actual market with the manipulation and a hypothetical, counterfactual market based on a temporal or geographical confrontation with a comparable market or even an econometric model.[1586]

The requirements for the quantification of the harm, combined with a lack of information on the side of the claimants, make damages claims risky and expensive.[1587] In practice, many claimants do not succeed at proving the damage suffered – and fail with their claim.[1588] This is, however, not due to insufficient rules concerning the burden of proof,[1589] but rather a problem of the access to information for claimants discussed in the preceding section.

[1580] Jens Ole Rauh, "Vom Kartellantengewinn zum ersatzfähigen Schaden - Neue Lösungsansätze für die private Rechtsdurchsetzung," *NZKart* Vol. 1, no. 6 (2013), 225. Also Kapp, *Kartellrecht in der Unternehmenspraxis: Was Unternehmer und Manager wissen müssen*, 2nd ed. (Wiesbaden: Springer Gabler, 2013), 251. Recently confirmed by *Unnamed Decision*, Case N° 11 U 73/11 (Kart), WuW 2016, 312, 313 (Higher Regional Court Frankfurt am Main 2015).

[1581] *ORWI,* Case KZR 75/10, BGHZ 190, 145 Ref. 83 (German Federal Court of Justice 2011).

[1582] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 215. With reference to *Selbstdurchschreibepapier*, Case 6 U 118/05, juris Ref. 61 (Higher Regional Court Karlsruhe 2010). Also *ORWI, Case KZR 75/10, BGHZ 190, 145 Ref. 83 (German Federal Court of Justice 2011).*

[1583] Controversial, in the affirmative Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 216. Likewise Rauh, "Vom Kartellantengewinn zum ersatzfähigen Schaden - Neue Lösungsansätze für die private Rechtsdurchsetzung," *NZKart* Vol. 1, no. 6 (2013), 222. See also Joachim Bornkamm and Mirko Becker, "Die privatrechtliche Durchsetzung des Kartellverbots nach der Modernisierung des EG-Kartellrechts," *ZWeR* Vol. 4, no. 3 (2005), 216. Negating *Global One*, Case U (Kart) 15/97, juris Ref. 98 (Higher Regional Court Düsseldorf 1998).

[1584] *Berliner Transportbeton*, Case 2 U 10/03 Kart, WuW/E DE-R, 2773, 2777 Ref. 31 (Higher Regional Court Berlin 2009).

[1585] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 227. With reference to *Papiergroßhandel*, Case KRB 12/07, WuW/E DE-R, 2225, 2228 (German Federal Court of Justice 2007).

[1586] Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht(München: C.H. Beck, 2016), 35-36 (not yet published).

[1587] Morell, "Kartellschadensersatz nach "ORWI"," *WuW* Vol. 63, no. 10 (2013), 969.

[1588] Martin Buntscheck, ""Private Enforcement" in Deutschland: Einen Schritt vor und zwei Schritte zurück," ibid, 948.

[1589] *Inderst and Thomas, Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 240.

(5) Application to the manipulations at the EEX

Having regard to claims referring to market manipulations at the energy exchange, so far, no damages claim was filed. Injured parties may base their claims on Sec. 33a(1) GWB. They would be entitled to full compensation of their harm according to Sec. 249 to 252 BGB. Applying the findings above to the wholesale market for power this means:

(a) Price effect (damnum emergens)

- The difference between the manipulated price of power and the hypothetical competitive price at the EEX times the quantity of power units bought;[1590]
- in case the seller shows that the injured party succeeded at passing on the higher prices to end customers (so-called passing-on defense, Sec. 33c(1) second sentence GWB), end customers are entitled to claim the price difference from the injurer, Sec. 33c(2) GWB.[1591]

(b) Quantity effect (lucrum cessans)

- The number of additional power units that would have been sold by the injured party to end customers in case of working competition.[1592]

(c) Interest

The damage claimed needs to be based on substantive proof: Injured parties hence require information about the manipulative scope of power producers in order to estimate the price and the quantity effect. Since demand tends to be inelastic in the power market,[1593] and the oligopoly firms accused of manipulations were *pivotal suppliers* in the clear majority of the hours,[1594] the scope for manipulations might be substantial. In court, however, Sec. 287 ZPO requires much more detailed information on pricing and the market environment for every hour that is assumed to have been subject to excessive pricing. Claimants face the problem to acquire this information from the manipulators, since the data publicly available only shows the EEX prices for the individual hours, yet not the price that

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[1590] Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht(München: C.H. Beck, 2016), 8, 23-24 (not yet published).
[1591] Inderst and Thomas, Schadensersatz bei Kartellverstößen (Düsseldorf: Handelsblatt Fachmedien, 2015), 242 et sqq.
[1592] Meyer and Zorn, "Kartellrechtliche Schadensersatzansprüche in Bezug auf Netznutzungsentgelte - Beweislast und Durchsetzbarkeit," *N&R* Vol. 7, no. 3 (2010), 129.
[1593] Elberg et al., "Untersuchungen zu einem zukunftsfähigen Strommarktdesign," (2012), 7. See also Atukeren and Simmons-Süer, "Elektrizitätsnachfrage nur wenig elastisch," *Ökonomenstimme* (2011).
[1594] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09, 104-105.

would have formed in case of working competition. Also, there is no information on production cost publicly available – studies like the FCO sector inquiry only simulate cost functions for the different plant types on the basis of economic models.[1595]

The access to information is, however, difficult in practice, as the above sections have shown. Although the problem of exclusion from leniency statements does not apply to manipulations at the energy market – the scope of application of the leniency program does not cover abuse cases[1596] – claimants still face high barriers and costs for the access to the files.

(6) Conclusion on the German legal framework

Claimants for damages under German antitrust law face many of the same problems that have been pointed out for the European legal framework before. Namely, the restrictions on the access to information complicate the collection of evidence for injured parties.

cc) Conclusion on private antitrust damages claims

The preceding sections have described both the European legal framework and the German implementation of rules for antitrust damages claims. It could be shown that the problems lie not with the existing rules on damages claims and the requirements for substantial proof of the claims,[1597] but rather with the restrictions on access to evidence that hinder injured parties – for practical and financial reasons – to substantiate their claim. From an economic point of view, the incentives to sue a manipulator are rather low. The danger of an inefficiently high number of damages claims pointed out initially[1598] will therefore not realize in practice under the current legal framework.

[1595] Ibid, 161.

[1596] Engelsing, "Die Bußgeldleitlinien der Europäischen Kommission von 2006," *WuW* Vol. 57, no. 5 (2007), 479. Refer also to section B. IV. 2. a) of this chapter.

[1597] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 240.

[1598] Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht(München: C.H. Beck, 2016), 8 (noz yet published). See also Haucap and Stühmeier, "Wie hoch sind durch Kartelle verursachte Schäden: Antworten aus Sicht der Wirtschaftstheorie," *WuW* Vol. 58, no. 4 (2008), 419. Similar Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," ibid Vol. 61, no. 12 (2011), 1246.

Furthermore, most of the antitrust damages claims are follow-on claims, which build upon the examinations of an antitrust authority.[1599] While those claims increase the level of deterrence by adding to the damage variable D_P, they remain without influence on the probability of punishment p_p. Only stand-alone damages claims have potential to increase p_p, they are however rare nowadays.

It remains hence much to be done in order to increase the incentives for private parties in the fight against market manipulations. Foremost, the interaction between public and private prosecution needs further revision. Section 2. will present necessary changes in the legal framework to reach this goal. Beforehand, damages claims based on capital market law will be examined with regard to their suitability to strengthen private enforcement.

b) Damages claims in capital market law

Also in the field of capital market law, injured parties have legal remedies to claim the harm done to them by market manipulators. This section presents the legal framework for damages claims under capital market law and discusses, whether the rules lead to more successful claims in today´s antitrust framework.

Sec. 37b and 37c WpHG contain rules on the civil liability of parties having injured their WpHG duties. However, both paragraphs target injuries of the duty to the disclosure of inside information according to the former Sec. 12 et sqq. WpHG.[1600] A civil liability for infringements of the ban on market manipulation (formerly Sec. 20a WpHG) that covers the price manipulations at the EEX is not part of the law.

However, civil liability has been derived from the German Civil Code: According to Sec. 823(2) BGB, the infringer of a protective law is liable for any harm done to the injured party.[1601] Hence, civil liability might result from Sec. 823(2) BGB in connection with Sec. 20a WpHG. This liability requires the quality of a protective law of the former Sec. 20a WpHG. However, this quality has been denied by the German Federal Court of Justice, most recently with its 2011 *IKB* decision.[1602] According to the court and the biggest part

[1599] Inderst and Thomas, *Schadensersatz bei Kartellverstößen* (Düsseldorf: Handelsblatt Fachmedien, 2015), 104.
[1600] Holger Fleischer, in *Handbuch des Kapitalanlagerechts*, ed. Heinz-Dieter Assmann and Rolf A. Schütze, 4th ed. (München: C.H. Beck, 2015), § 6 Ref. 5.
[1601] Gerhard Wagner, in *Münchener Kommentar zum Bürgerlichen Gesetzbuch*, ed. Franz Jürgen Säcker and Roland Rixecker, 6th ed. (München: C.H. Beck, 2013), Sec. 823 Ref. 384 et sqq., 405.
[1602] Fleischer and Bueren, "Cornering zwischen Kapitalmarkt- und Kartellrecht," *ZIP* Vol. 33, no. 27 (2013), 2564. With reference to *IKB*, Case XI ZR 51/10, BGHZ 192, 90 Ref. 20 (German Federal Court of Justice 2011).

of the literature, the focus of Sec. 20a WpHG is on the protection of the functionality of the securities markets, rather than the protection of individual investors´ rights.[1603]

Therefore, civil liability may only be derived from Sec. 826 BGB.[1604] The norm explicitly protects the assets and requires the intentional cause of an immoral damage by the infringer. Hence, not only needs the infringer have caused a pecuniary loss for the injured party. Also, an increased reprehensibility of the infringer´s actions needs to be proved. The infringement of a law itself is not sufficient, however. Rather, the increased reprehensibility emerges from the objective pursued, the measures used, the attitude shown or the consequences from the actions.[1605] The hurdles to be granted damages according to Sec. 826 BGB are hence considerable, especially with regard to the immorality of the action and the intent of the infringer: The legislator wanted to avoid liability for pure pecuniary losses getting out of hand.[1606] **Sec. 826 BGB is therefore not suited to foster private enforcement of capital market law** and increase deterrence of market manipulations.

2. Required changes in the legal framework

The above examination of the current system of private enforcement against the infringer has shown that only in the field of antitrust, there is a system of civil liability for parties injured due to market manipulations. However, the regime for private damages claims in antitrust suffers from a number of weaknesses that minder the effectiveness of private market surveillance.[1607] Those are namely the restricted access to proof for claimants, the problems to weigh the public interest in the protection of leniency applicants against the private interest in access to information. Also, the European Commission directive on cartel damages claims issued in autumn 2014 could not solve these problems convincingly.[1608]

[1603] *IKB, Case XI ZR 51/10, BGHZ 192, 90 Ref. 22 et sqq. (German Federal Court of Justice 2011).* For the prevailing opinion in the literature see e.g. Schwark, in *Kapitalmarktrechts-Kommentar*, ed. Schwark and Zimmer, 4th ed. (München: C.H. Beck, 2010), Sec. 20a Ref. 7. Also Alexander Worms, in *Handbuch des Kapitalanlagerechts*, ed. Heinz-Dieter Assmann and Rolf A. Schütze, 4th ed. (München: C.H. Beck, 2015), § 10 Ref. 77. For the opposite opinion refer to Stefan Grundmann, in *Handelsgesetzbuch*, ed. Karlheinz Boujong, et al., 3rd ed. (München: C.H. Beck, 2015), Sec. 20a Ref. VI 156.

[1604] Holger Fleischer and Eckart Bueren, "Die Libor-Manipulation zwischen Kapitalmarkt- und Kartellrecht," *Der Betrieb* Vol. 65, no. 45 (2012), 2564.

[1605] *IKB, Case XI ZR 51/10, BGHZ 192, 90 Ref. 28 (German Federal Court of Justice 2011).*

[1606] Wagner, in *Münchener Kommentar zum Bürgerlichen Gesetzbuch*, ed. Säcker and Rixecker, 6th ed. (München: C.H. Beck, 2013), Sec. 826 Ref. 12 et sqq.

[1607] Dworschak and Maritzen, "Einsicht - der erste Schritt zur Besserung? Zur Akteneinsicht in Kronzeugendokumente nach dem Donau Chemie-Urteil des EuGH," *WuW* Vol. 63, no. 9 (2013), 830.

[1608] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 7.

The lacking effectiveness of private enforcement is however an infringement of European law. National procedural rules must not render virtually impossible or excessively difficult the exercise of rights accorded by Community law.[1609] Hence, German national law needs to grant better access to proof and solve the problems between immunity recipients and private claimants.

What is needed to solve the conflict is a system that balances the different interests. Several proposals will be discussed:

- The release from the liability for leniency applicants only in the internal relationship with other manipulators (section a),[1610]
- the introduction of a monistic system of antitrust deterrence that combines public fining and private damages claims in only one hand (fifth chapter).[1611]

a) Full liability of leniency applicants in the external relationship

Today, leniency applicants are neither fully liable in the internal relationship (towards other cartel participants/manipulators) nor in the external relationship (towards the injured parties), Art. 11(4), (5) DIR 2014/104/EU. In both cases, their liability is restricted to the damage done to their direct or indirect purchasers and does not cover liability for damage done to other injured parties.

It has therefore been proposed to change the legal framework in order to establish full liability in the external relationship and grant the privilege of limited liability only in the internal relationship with the other infringers.[1612] In German civil law, all antitrust infringers are liable as joint and several debtors according to Sec. 840 BGB (external relationship), since their behavior has become causal for the damage of the injured parties.[1613] In the internal relationship, Sec. 426(1) first sentence BGB applies: The joint and several

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[1609] Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 255. With reference to *Courage Ltd v. Bernard Crehan, Case C-453/99, European Court Reports 2001, I-6297 Ref. 26 et sqq. (European Court of Justice 2001).*

[1610] "Die neue Richtlinie zur privaten Rechtsdurchsetzung im Kartellrecht," *WuW* Vol. 64, no. 6 (2014), 569.

[1611] See e.g. Thomas Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," ibid Vol. 62, no. 5 (2012), 485 et sqq.

[1612] Christian Kersting, "Die neue Richtlinie zur privaten Rechtsdurchsetzung im Kartellrecht," ibid Vol. 64, no. 6 (2014). See also "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 266. Refer also to Dworschak and Maritzen, "Einsicht - der erste Schritt zur Besserung? Zur Akteneinsicht in Kronzeugendokumente nach dem Donau Chemie-Urteil des EuGH," *WuW* Vol. 63, no. 9 (2013), 841. Of the same opinion Raphael Koch, "Rechtsdurchsetzung im Kartellrecht: Public vs. private enforcement," *JZ* Vol. 69, no. 8 (2013), 393.

[1613] Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 265. See also Koch, "Rechtsdurchsetzung im Kartellrecht: Public vs. private enforcement," *JZ* Vol. 69, no. 8 (2013), 391.

debtors need to grant each other compensation in equal parts, unless a different rule applies.[1614] In order to align the public interest in the protection of the immunity recipient and the private interest of claimants, the liability in the external relationship towards the injured parties should not be denied to any group of claimants.[1615] In the internal relationship between the antitrust infringers, however, the immunity recipient would only be liable for the percentage of damage that correlates with the reduction of the fine granted by the antitrust authority according to its leniency policy. The remainder of the damage would have to be split between the remaining infringers that did not apply for leniency.[1616]

The advantages of this policy are straightforward: It would allow claimants to sue the infringer they prefer based on its liquidity, the applicable law or the availability of evidence, without hurting the immunity recipients who are entitled to recourse against the other infringers. The divergence from the basic rule in Sec. 426(1) first sentence BGB on the internal relationship between the infringers may well be justified de lege lata: As *Kersting* argues, the leniency applicant has made a contribution to the minimization of the damage by way of disclosure of the antitrust infringement. This contribution may well be interpreted as a prevention of even higher damage in the meaning of Sec. 254(2) BGB.[1617]

b) Conclusion

However, full liability of successful leniency applicants in the external relationship would now be conflicting with the provisions in Art. 11(4), (5) DIR 2014/104/EU and is therefore no legal option. Furthermore, the increased financial burden on the infringers that are not immunity recipients may hardly be justified only on the grounds of the prevention of future damage.[1618] The situation becomes even more difficult in the cases of abuse of market power through manipulations of the market that are treated in this work: Since the firms do not necessarily act as a group like cartel members do, Sec. 840, 426

[1614] Peter Bydlinski, in *Münchener Kommentar zum Bürgerlichen Gesetzbuch*, ed. Franz Jürgen Säcker and Roland Rixecker, 6th ed. (München: C.H. Beck, 2013), Sec. 426 Ref. 1.
[1615] Different Lilly Fiedler, "Der aktuelle Richtlinienvorschlag der Kommission - der große Wurf für den kartellrechtlichen Schadensersatz?," *Betriebs-Berater* Vol. 68, no. 37 (2013), 2184.
[1616] Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 266.
[1617] Ibid, 267. See also Carsten Krüger, "Der Gesamtschuldnerausgleich im System der privaten Kartellrechtsdurchsetzung," *WuW* Vol. 62, no. 1 (2012), 13.
[1618] Florian Bien, "Überlegungen zu einer haftungsrechtlichen Privilegierung des Kartellkronzeugen," *EuZW* Vol. 22, no. 23 (2011), 890. Different with regard to the nature of joint and several debtors: Dworschak and Maritzen, "Einsicht - der erste Schritt zur Besserung? Zur Akteneinsicht in Kronzeugendokumente nach dem Donau Chemie-Urteil des EuGH," *WuW* Vol. 63, no. 9 (2013), 842.

BGB will not apply.[1619] The solution discussed here is hence not suited to help private enforcement in manipulation cases.

Apart from that, this concept does not solve the problems with regard to the access to evidence. In so far, a further reaching approach to the system of private damages claims is required.[1620] A corresponding proposal will be introduced in the following fifth chapter of this work.

Nonetheless, one alternative concept for private damages claims is considered in this section. Other than so far, those claims are not targeted against the firm infringing the antitrust laws, but against the responsible firm directors according to Sec. 93(2) AktG and Sec. 43(2) GmbHG (section III.).

II. Damages claims against firm directors

Direct fining of corporate directors, officers and employees by the antitrust authorities plays only a minor role in today´s antitrust enforcement.[1621] On the EU level, antitrust laws do currently not allow for direct fining of corporate directors, officers or employees by the antitrust authorities.[1622] In Germany, Sec. 81(4) first sentence GWB allows for direct fining, however only to a very small extent.[1623] This gap may however be closed through private damages claims: The named groups of agents may be liable indirectly through **recourse claims of their firms or third parties**.

This section will therefore discuss the economic effects of private damages claims (section 1.) and the legal tools available de lege lata (section 2.). Section 3. concludes.

[1619] Even in cartel cases, the liability is shared according to criteria like responsibility, market share, profit and so on instead of the general rule of equal shares in Sec. 426(1) first sentence BGB. See e.g. Carsten Krüger, "Der Gesamtschuldnerausgleich im System der privaten Kartellrechtsdurchsetzung," ibid Vol. 62, no. 1 (2012), 9. Confirmed by *Calciumcarbid-Kartell II*, Case KZR 15/12, BGHZ 203, 193 Ref. 32 et sqq. (German Federal Court of Justice 2014). Now for manipulation cases where any firm may act without consultations with its competitors, there is no common responsibility that would justify the application of Sec. 426 BGB.

[1620] Koch, "Rechtsdurchsetzung im Kartellrecht: Public vs. private enforcement," *JZ* Vol. 69, no. 8 (2013), 398.

[1621] With regard to individual fining refer to the examination in section B.IV.1.b) of this chapter.

[1622] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 23-24.

[1623] Achenbach, in *Frankfurter Kommentar zum Kartellrecht*, ed. Jaeger, Pohlmann, and Schroeder(Köln: Verlag Dr. Otto Schmidt, 2011), 33 et sqq.

1. The economic effects of damages claims against firm officials

Today, the number of claims against firm officials is negligibly small.[1624] Yet, an effective regime of corporate liability could change the incentive scheme for firm officials towards stricter compliance with the rules of antitrust and capital market law. The equation on individual expected damage (d_E) of corporate agents applies:

$$d_E = p_p(e) \cdot d_P,$$

$$\text{with } d_G = \overline{d_G}^{1625},$$

which equals the change of the individual profits received from the infringement of the laws $\Delta\Pi_i$ (e.g. bonuses paid for increased profits of the firm) in the optimum:

$$\Delta\Pi_i = d_E \text{ or}$$

$$\Delta\Pi_i = p_p(e) \cdot d_P.$$

Hence, changes of either the probability of punishment p_p or the sum of private damages to be paid to injured parties d_P influence the behavior of firm officials when deciding about compliance with the rules of the energy market.

Targeting damages claims to the individual actors might be a more cost-effective way to increase deterrence of infringements than today´s focus on the firms.[1626] First, because it allows more precisely directed and therefore more effective deterrence: The punishment hits the person in the firm that is actually making the decision about compliance or non-compliance with the legal framework. Second, because an individual approach allows for lower fines that are in accordance with the rule of law: The threat of **personal financial losses** has a much bigger effect on individual decision making than may have the threat of a sanction against the firm.[1627] Limits to this approach may however be created by

[1624] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 93.

[1625] See already section B. b) of this work. Refer also to William M. Landes, "Optimal Sanctions for Antitrust Violations," *The University of Chicage Law Review* Vol. 50, no. 2 (1983), 657. Also Wils, "Optimal Antitrust Fines: Theory and Practice," *World Competition* Vol. 29, no. 2 (2006), 12.

[1626] Ginsburg and Wright, "Antitrust Sanctions," *Competition Policy International* Vol. 6, no. 2 (2010), 17.

[1627] Polinsky and Shavell, "Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?," *International Review of Law and Economics* Vol. 13, no. 3 (1993), 240. See also Biermann, "Neubestimmung des deutschen und europäischen Kartellsanktionenrechts: Reformüberlegungen, Determinanten und Perspektiven einer Kriminalisierung von Verstößen gegen das Kartellrecht," *ZWeR* Vol. 5, no. 1 (2007), 17.

institutions like D&O (Directors and Officers) insurance contracts that fully or in part adjust the damage.[1628]

From a legal point of view, it remains hence to be shown which bases for private damages claims against firm directors and officers are available and how they influence the crucial variables probability of punishment and damage in the decision makers' equation.

2. Legal remedies of injured parties against firm officials

From a legal point of view, two kinds of claims need to be distinguished:

- Damages claims of the owners of the firms having manipulated the market against their (former) responsible employees (section a), and
- damages claims of third parties having suffered damages from manipulations of the power prices (section b).

a) Damages claims by the owners of the firms against their responsible employees

National law regulates the liability of company agents towards the owners of the firm. In Germany, liability depends on the legal form of the company: Members of the management board of a corporation (Aktiengesellschaft, AG) are liable according to Sec. 93(2) of the German Corporation Act (Aktiengesetz, AktG), directors of a GmbH are liable according to Sec. 43(2) GmbH-Gesetz (GmbHG).[1629] Both rules require a neglect of the duty to legality by the reliable agent.[1630] Members of the management board have to act according to the due care of a reasonable and careful businessman.[1631] This includes the compliance with general rules like antitrust and capital market laws. In fact, any unlawful behavior in the external relationship between company and the market is mirrored as a neglect of duty in the internal relationship between the company and its owners. Managers are hence obliged to obey the law themselves *and* prevent infringements of the law by the

[1628] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 188.
[1629] Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 162.
[1630] Oliver Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 71.
[1631] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 110-111.

firm and its employees.[1632] The following sections will therefore analyze whether liability of the management for market manipulations, using the example of Sec. 93(2) AktG on the energy market.

aa) Liability according to Sec. 93(2) AktG

Liability according to Sec. 93(2) AktG requires a breach of duty by the management, a damage for the firm, causality and fault. This section will discuss whether these requirements are fulfilled for the boards of management of the firms having manipulated the energy exchange.

(1) Breach of duty towards the company

The fact that manipulations of the energy market by way of physical or financial capacity retention are infringements of the antitrust, energy and capital market laws, has been proved thoroughly in the preceding sections.[1633] With regard to the director´s and officer´s liability it needs however to be clarified, whether *any* infringement of the law results in damages claims of the firm.[1634] Specifically, it needs to be discussed, whether the breach of duty in the external relationship is to be considered a corresponding breach of duty towards the company.[1635]

Director´s and officer´s liability has long been oriented on the 1997 decision of the German Federal Court of Justice in the case **ARAG/Garmenbeck**[1636].[1637] In their ruling, the judges established a duty for the supervisory board of a firm to examine, whether the management has made itself liable for damages and conduct a risk analysis in order to assess whether a judicial enforcement is promising. In case this question was answered in the affirmative, the supervisory board is obliged to pursue potential enforceable claims,

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[1632] Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 163.
[1633] Refer to the second chapter of this work.
[1634] Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 163. Critical Gerald Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Wulf Goette, Mathias Habersack, and Susanne Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 147.
[1635] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 113.
[1636] *ARAG/Garmenbeck*, Case II ZR 175/95, BGHZ 135, 244 (German Federal Court of Justicde 1997).
[1637] Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 70. See also Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 162.

unless important considerations of the corporate well-being outweigh or are at least equivalent to those in favor of a claim.[1638]

According to this jurisdiction, the supervisory boards of the four oligopoly firms being suspect of price manipulation would be obliged to check, whether their management board complies with its duties to legality according to Sec. 93(1) AktG and, more recently, the ruling of the Regional Court Munich I in the *Siemens/Neubürger* case[1639].[1640] The reproach is not an infringement of the rules by the management itself, but rather a failure to organize and supervise the company such that infringements of the law are avoided.[1641] The standard for the ex-post evaluation of management decisions and installed control mechanisms is set by the so-called **Business Judgment Rule**, which served as a model for the codification of Sec. 93(1) second sentence AktG.[1642]

The Business Judgment Rule is supposed to respect the need for entrepreneurial discretion of the management when acting according to its assignment in Sec. 76 AktG. Therefore, a decision of the management board is not subject to judicial review according to the duty-of-care standards, if the following criteria are met:

- Disinterested judgment: The responsible manager does not have an own relevant interest in the decision.
- Informed judgment: The responsible manager has acquired sufficient information in preparation of the decision.
- Rational belief and good faith: The responsible manager has acted comprehensibly and, according to his own conviction, in the best interest of the firm.[1643]

Liability is not per se affirmed if the requirements of the business judgment rule are not met, however, the lack of one of the criteria indicates a breach of duty by the responsible management. Still, this breach of duty needs to be positively determined and proved in court.[1644]

[1638] *ARAG/Garmenbeck, Case II ZR 175/95, BGHZ 135, 244 Ref. 25 (German Federal Court of Justicde 1997).*
[1639] *Neubürger*, Cases 5 HKO 1387/10, 5HK O 1387/10, 5 HK O 1387/10, WM 2014, 947 (Regional Court Munich I 2013).
[1640] Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 71. See also Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 74.
[1641] *Neubürger, Cases 5 HKO 1387/10, 5HK O 1387/10, 5 HK O 1387/10, WM 2014, 947 Ref. 89 (Regional Court Munich I 2013).*
[1642] Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 36.
[1643] Ibid, Sec. 93 AktG Ref. 37.
[1644] Ibid, Sec. 93 AktG Ref. 40.

With regard to the energy market manipulations, the managers might either be liable for a breach of duty due to **active behavior**, e.g. the internal order to optimize plant utilization using capacity retention, or breach of duty due to **failure to act**[1645] and e.g. install an effective **Compliance Management System** in order to supervise lower managerial levels of the company (Sec. 130 OWiG).[1646] The responsible managers have hence violated the Business Judgment Rule due to a lack of rational belief and no action in the best interest of the firm.

However, from a subjective point of view, managers may, according to their own conviction, consider manipulations of the **energy market in the best interest of the firm**. It must be in a capitalistic firm´s interest to maximize profit and therefore – through the management´s decisions – adjust their behavior to the liability equation introduced above:

$$\Delta\Pi = p_p(e) \cdot C_D.$$[1647]

If a firm operates in an environment, where the right side of the equation, thus the probability of detection and/or the cost of detection are sufficiently low, such that

$$\Delta\Pi > p_p(e) \cdot C_D, \text{ and}$$

$$\Delta\Pi - [p_p(e) \cdot C_D] > 0,$$

the profit from infringing the law exceeds the expected cost, hence the firm´s profits increase.[1648] The management might argue that non-compliance with the rules was in the very interest of the firm and could therefore not be considered a breach of duty of the management. This argument has become known under the term of "**beneficial breaches of duty**": While there is clearly a breach of duty in the external relationship, the judgment in the internal relationship might differ. Some authors do therefore propose a limitation of liability for beneficial breaches of duty.[1649]

[1645] Ibid, Sec. 93 AktG Ref. 147.

[1646] Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 71-72. With regard to antitrust refer also to Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 136.

[1647] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 102.

[1648] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 143. Refer also to Frank H. Easterbrook and Daniel R. Fischel, "Antitrust Suits by Targets of Tender Offers," *Michigan Law Review* Vol. 80(1982), 1168 Ref. 36. Also Fleischer, "Kartellrechtsverstöße und Vorstandsrecht," *Betriebs-Berater* Vol. 63, no. 21 (2008), 1071.

[1649] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 144. With reference to Easterbrook and Fischel, "Antitrust Suits by Targets of Tender Offers," *Michigan Law Review* Vol. 80(1982), 1168, 1177.

Such view would however stand in stark contrast to the duty to legality in Sec. 92(1) AktG that is supposed to also have preventive effect on manager´s behavior and ensure legal compliance of their decisions. The category of "beneficial breaches of duty" is hence to be denied.[1650]

As a result, market manipulation at the Energy Exchange is a breach of duty by the management of the firms concerned.

(2) Damage

Managers must have caused damage to the firm. According to Sec. 249 BGB, they must restore the position that would exist if the circumstance obliging him to pay damages had not occurred, including the lost profits.[1651] Basically, the damage may also be a fine that has been imposed on the firm and shall be borne by the reliable management in the internal relationship.[1652] However, this view causes problems with regard to the scope of the fine: While public fines, namely in antitrust, are determined depending on the situation of the company (e.g. its profits), the pure pass-on of the fine to the management does not consider their situation.

It has therefore been requested to fully deny recourse claims against the management for several reasons:

- The rules on fines are exhaustive and do not allow for exemptions.[1653]
- Also, the purposes of general and specific deterrence would be defeated if the fine could be passed on to the management.[1654]
- The fact that in EU antitrust law, individual fining of the management is not possible, has been used to justify the full exclusion of recourse claims.[1655]

A recent decision of the State Labor Court Düsseldorf has confirmed this view: The judges found that reimbursement of a fine for the company (in the case a GmbH) according to

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[1650] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 146-148. Refer also to Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 102.
[1651] Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 171.
[1652] Ibid, Sec. 93 AktG Ref. 172.
[1653] Fleischer, "Kartellrechtsverstöße und Vorstandsrecht," *Betriebs-Berater* Vol. 63, no. 21 (2008), 1073.
[1654] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 161-162. Refer also to Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 102.
[1655] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 104.

Sec. 81 GWB may not be claimed from an employee according to Sec. 43(2) GmbHG.[1656] The judges argue that the strict separation between administrative law on the one hand and civil law on the other hand may not be overcome by damages claims. Hence, the company remains the addressee of the fine – also from a civil law point of view.[1657]

Other authors[1658] propose to limit the scope of recourse claims and consider the circumstances of the individual case, e.g. the individual contribution to the breach of duty, as well as the individual financial capacity of the management.[1659] This approach seems better suited to reach a deterrent effect. It is also no violation of the unity of the legal system: Damages payments of former directors do not cause a situation contrary to the law on the antitrust level (e.g. an infringement without a sanction). Rather, it corresponds to the situation that would have existed if the reliable director had duly taken care of his duties. In fact, solely the liability law in stock companies is concerned, yet not the fines level.[1660]

Also, the Düsseldorf ruling causes the following problem: While antitrust requires compliance by the firm as a legal entity, the firm itself is not able to act. Rather, people (e.g. the management) act in the name of the company. Hence, the requirements for compliance have to be realized by the management.[1661] While the management is supervised by another legal body of the company (in the AG the supervisory board), there remains an information asymmetry between the management and its supervisors.[1662] This gap may only be closed by an effective legal framework that disciplines the persons who make decisions about legal compliance of the firm. This does necessarily include effective deterrence of illegal behavior.

A different interpretation would cause a lack of damages claims exactly for the kind of infringements that are considered serious violations of the law and hence punishable by a fine.[1663] The precise scope of recourse liability and its dogmatic construction would go far beyond the purpose of this work and will therefore not be discussed. A comprehensive

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[1656] *Schienenkartell*, Case 16 Sa 459/14, WuW/E DE-R, 4668 Ref. 151 (State Labor Court Düsseldorf 2015).
[1657] Ibid, Ref. 161 et sqq. Confirming this view Stefan Thomas, "Bußgeldregress, Übelszufügung und D&O-Versicherung," *NZG* Vol. 18, no. 36 (2015), 1412.
[1658] For an overview of the views on recourse claims against the management in antitrust cases refer to Markus J. Friedl and Laura A. Titze, "Der Sanktionszweck heiligt den Regressausschluss - Zur Haftung von Vorstandsmitgliedern für Verbandsgeldbußen," *ZWeR* Vol. 13, no. 3 (2015), 319 et sqq.
[1659] Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 172. See also Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 109. Also Walter Bayer, "Legalitätspflicht der Unternehmensleitung, nützliche Gesetzesverstöße und Regress bei verhängten Sanktionen - dargestellt am Beispiel von Kartellverstößen -," in *Festschrift für Karsten Schmidt zum 70. Geburtstag*, ed. Georg Bittner, et al.(Köln: Verlag Dr. Otto Schmidt, 2009), 97.
[1660] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 100.
[1661] Ulrich Rust, "Innenregress und Haftung der Unternehmensleistung bei Kartellverstößen," ibid Vol. 13, no. 3 (2015), 305-306.
[1662] Ginsburg and Wright, "Antitrust Sanctions," *Competition Policy International* Vol. 6, no. 2 (2010), 17.
[1663] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 100.

description of the topic may be found in *Twele´s* 2013 work on Manager´s liability for antitrust infringements.[1664]

Authors agree, however, with regard to damages recourse claims against the management referring to private damages claims according to Sec. 33(3) GWB. This amount will regularly already meet the threshold for liability of firm officials.[1665]

Furthermore, the management may require the consideration of additional profits that resulted for the company precisely due to the (antitrust) infringement (**so-called adjustment of profits – Vorteilsausgleichung**).[1666] In consequence, damage needs to be denied in the scope of the profits received by the company.[1667]

Having regard to **market manipulations**, the companies are potentially subject to antitrust and capital market fines from the public sector, as well as damages claims based on Sec. 33 GWB by private parties. These are payments that would not have to be incurred if the breach of duty (thus the antitrust and capital market laws) had not occurred. Damage has hence occurred to the firm, that has however to be reduced by the amount of profits from the infringement and adapted to the individual situation of the managers.

(3) Causality

Furthermore, the law requires causality between the breach of duty and the damage to the company. Problems may occur if decisions are made based on the majority on the management board: Any individual manager might argue that the same decision would have been made without his vote, given the relevant majority.[1668] In civil and stock corporation law, Sec. 830(1) second sentence BGB solves the problem of not identifiable causality, but common causation.[1669]

Managers manipulating the prices in a market are undoubtedly causing damage to their employers *causally*.

[1664] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 165-168.
[1665] Thomas, "Bußgeldregress, Übelszufügung und D&O-Versicherung," *NZG* Vol. 18, no. 36 (2015), 1414.
[1666] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 106 et sqq.
[1667] Twele, Die Haftung des Vorstands für Kartellrechtsverstöße, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 168-173.
[1668] Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 174-175.
[1669] Ibid, Sec. 830 BGB Ref. 16 et sqq.

(4) Fault

Eventually, the claim for damages requires a *faulty* breach of duty by the management, thus **intention or negligence**, Sec. 276(1) second sentence BGB. The manager must have disregarded the due care of a reasonable and careful businessman.[1670] In practice, the subjective breach of duty will regularly mirror the objective breach of duty discussed above: A board member that has objectively broken his duties will also have been able to act like a reasonable and careful businessman on the subjective level.[1671] In the event of controversial legal questions, the manager is obliged to seek expert advice and check it critically: According to the ECJ verdict in the case Schenker & Co. AG,[1672] a mistake of law (Sec. 17 StGB) that would exclude guilt, may not be claimed based on qualified legal advice solely, if the infringement of competition law must have been obvious to the firm.[1673]

In the example used, managers of power sellers acting at the EEX must have known that the retention of production capacity was an infringement of the antitrust laws if their firms were holding a dominant market position, Sec. 19(2) N° 2 GWB. In case of doubts about the applicability of the norm due to e.g. the relevant market share justifying market dominance or the behavior covered by N° 2, managers are obliged to seek qualified legal advice. The same is true for the infringement of capital market law. As a result, the responsible management has committed the manipulations of the energy exchange that may be objectively proved intentionally.

(5) Conclusion

In conclusion, a firm whose management board has manipulated prices in the energy market may claim damages from its managers if the breach of duty, thus the infringement of the law, may be proved. In so far, the law supports the claimants as it contains a rebuttable presumption for a breach of duty by the management. The directors do have to prove that they acted like reasonable and careful businessmen.[1674]

[1670] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 96. Refer also to Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 176.
[1671] Holger Fleischer, in *Aktiengesetz*, ed. Gerald Spindler and Eberhard Stilz, 3rd ed. (München: C.H. Beck, 2015), Sec. 93 AktG Ref. 205. Refer also to Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 97.
[1672] *Bundeswettbewerbsbehörde v. Schenker & Co. AG*, Case C-681/11, ECLI:EU:C:2013:404 (European Court of Justice 2013).
[1673] Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 177.
[1674] Ibid, Sec. 93 AktG Ref. 181 et sqq.

However, this *recourse liability* has shortcomings with regard to its deterrent effect:

- It only provides liability rules for corporate managers or company directors. The individual employee who is making the decision to manipulate is not addressed by the rules. It would, however, be advantageous to target the actual employee who is manipulating the market. First, that employee is directly responsible for the manipulation and may well be deterred by the threat of a sanction, whereas a director or officer may only be effectively deterred if he is able to monitor and, if necessary, stop the employee engaging in illegal market manipulations. Second, an employee has less to gain from manipulations than has a corporate manager or company director, which allows for smaller fines to reach an efficient level of deterrence.[1675] The following section bb) will therefore treat additional liability according to labor law that also targets subordinate employees.

- It requires a public fine and/or private damages claims in the first place – recourse claims are hence not suited to increase the rate of detection of manipulations, because they only refer to manipulation cases that have already been uncovered by the authorities or private interest groups.

- Companies buy insurance contracts for their directors and officers (so-called D&O insurance) that compensate managers under certain circumstances for damages.[1676] This instrument might minder the deterrent effect of recourse claims and will therefore be discussed in section cc).

bb) Liability based on labor law

In case an employee on the level below the management engages in market manipulations that result in a public fine against the corporation, the question whether also this group of actors may be liable personally comes up.[1677] In these cases, the specific rules on **pecuniary responsibility for entrusted property (so-called "Arbeitnehmerhaftung")** apply: While originally developed for the damage of working tools, it also refers to the indirect damage due to infringements of antitrust and capital market laws. The basis for damages claims are Sec. 241(2), 280(1) BGB due to a breach of duty in the employment contract.[1678] With regard to the burden of proof, Sec. 619a BGB specifies the general

[1675] Douglas H. Ginsburg and Joshua D. Wright, "Antitrust Sanctions", *Competition Policy International* Vol. 6, no. 2 (2010), 18.
[1676] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 115.
[1677] Ibid, 117.
[1678] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 109.

rule in Sec. 280(1) second sentence BGB, stating that fault and liability of the employee must be reduced due to the operational risk borne by the employer. Employees are hence only liable for intent and gross negligence.[1679]

An employee engaging in manipulations of the energy market as a trader at the EEX or in any other position in the company will regularly act intentionally. He may hence be held liable for the damage done to the firm according to the legal concept of "Arbeitnehmerhaftung". The scope of liability depends on several factors including the degree of fault, damage caused so far in the employment contract, personal circumstances and the operational risk of the employer in the individual case.[1680]

cc) Shortcomings of the corporate liability

Yet, the above-introduced liability regime of German company law has several serious disadvantages. First, it requires a public fine or a successful damages claim of a third party against the firm in order to lead to a recourse claim. Deterrence is hence only reached in cases where there has already been a sanction before, even if not as precisely directed as the individual sanction of corporate liability. The liability regime may hence increase the cost of detection to the infringer, **an increase of the probability of punishment may not be reached**.

Furthermore, in practice companies buy insurance for their directors and officers, so-called **D&O insurance contracts**.[1681] Even though Sec. 93(2) third sentence AktG requires a deductible of ten percent of the damage done to the company reaching up to a maximum of one and a half times the fixed annual remuneration,[1682] insurance still lowers the deterrent effect of fining.[1683] Especially since the deductible is not compulsory if the D&O insurance contracts that have been bought by the management itself (where Sec. 93(2) third sentence AktG does not apply) instead of the company.[1684]

[1679] Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 72.
[1680] Ibid.
[1681] Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 169. See also Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 209. With regard to the dispute about the insurability of antitrust fines refer to Thomas, "Bußgeldregress, Übelszufügung und D&O-Versicherung," *NZG* Vol. 18, no. 36 (2015), 1416.
[1682] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 116. Refer also to Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 189.
[1683] Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 193.
[1684] Ibid, Sec. 93 AktG Ref. 198.

An exemption is the **limitation of insurance coverage** in cases of intentional or even just knowing violations of the law.[1685] In case of market manipulations, managers must be aware that they work for a firm with a dominant position in the market and need to comply with the rules of conduct codified in Sec. 19 GWB. If there is insecurity with regard to the market position or the legality of the concrete behavior, intent may not be denied; rather, managers need to search for expert advice. In practice, managers culpable of market manipulations will have to face a limited coverage of their damage from the D&O insurance. This limitation might not fully balance the loss of deterrence from D&O insurance, but it still improves the preventive effect to comply with the law by some degree.[1686]

Third, the German approach of indirect liability of corporate agents relies on the supervisory board´s action against current or former corporate managers. Yet, the **incentive scheme** pictured in figure 17 has already shown the weak incentives for supervisors and shareholders to effective control of corporate decisions and their low interest in costly monitoring and enforcement of corporate compliance with antitrust laws.[1687] Even though the supervisory board is obliged to check whether the management is liable for damages according to the ARAG/Garmenbeck decision,[1688] in practice, strong reasons from the rule are found that outweigh the need for juridical prosecution.[1689]

dd) Conclusion

As a result, recourse claims as a means of indirect liability of the management may help to target damages to the decision maker and have a preventive effect with regard to legal compliance in energy trade. Due to the shortcomings named above, the deterrent effect is, however, rather small.

An approach based on direct liability of corporate agents for infringements of the law promises what previous actions failed to provide: The link of profit opportunities and responsibility for the risks taken. The following section will examine whether German law allows for damages claims against company agents *directly*, respectively which changes to the current legal system are necessary to enhance individual deterrence.

[1685] Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 116. See also Lotze, "Haftung von Vorständen und Geschäftsführern für gegen Unternehmen verhängte Kartellbußgelder," *NZKart* Vol. 2, no. 5 (2014), 169.

[1686] Indicated in Spindler, in *Münchener Kommentar zum Aktiengesetz*, ed. Goette, Habersack, and Kalss, 4th ed. (München: C.H. Beck, 2014), Sec. 93 AktG Ref. 193.

[1687] Refer to section B.IV.1.b) of this chapter.

[1688] *ARAG/Garmenbeck, Case II ZR 175/95, BGHZ 135, 244 Ref. 25 (German Federal Court of Justicde 1997).*

[1689] Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 71 Ref. 31.

b) Damages claims of injured third parties against firm officials

Besides indirect sanctions from recourse claims, firm directors might face damages claims from third parties injured by market manipulations, e.g. wholesale buyers at the EEX or even end customers. This section will discuss both the advantages of the approach from an economic point of view (subsection aa)) and the legal opportunities (section bb)). Section cc) concludes.

aa) Economic effects from direct liability

From an economic point of view, such claims may drive both the cost of detection and the probability of punishment up. Since they do not require prior fine proceedings, the cost of detection is not just distributed between the firm and the management, but an **additional cost position** is created. Furthermore, traders in the energy market being suspicious of paying excessive prices for power do not have to rely on governmental administrative procedures, but may, based on their own experience in the market and investigations file claims that might **uncover illegal behavior**. This aspect is particularly interesting for cases that do not meet the Commission´s or FCO criteria for the initiation of an investigation, e.g. because they are not of extensive relevance.

Eventually, this approach (re-)establishes the connection between risk and liability.

bb) Legal opportunities in German civil law

A legal basis for claims by third parties against the management may not be found in Sec. 93(2) AktG respectively Sec. 43(2) GmbHG discussed above. These rules only refer to the internal relationship between the corporation and its management.[1690] A basis for such damages claims against the management may however be found in German torts law, Sec. 823(2) BGB in connection with Sec. 263 StGB. Sec. 823(2) BGB expands the liability of the management to third parties.[1691] The rule requires the infringement of a statute that is intended to protect another person. With regard to market manipulations, this protective statute may be Sec. 263 StGB (fraud).

[1690] Michael Nietsch, "Die Garantenstellung von Geschäftsleitern im Außenverhältnis," *CCZ* Vol. 6, no. 5 (2013), 194.
[1691] Wagner, in *Münchener Kommentar zum Bürgerlichen Gesetzbuch*, ed. Säcker and Rixecker, 6th ed. (München: C.H. Beck, 2013), Sec. 823 BGB Ref. 387.

If the **manager himself** has committed manipulations in a market or has instructed his employees to do so, he may be held liable by third parties who suffered damage from the infringement according to Sec. 823(2) BGB, Sec. 263 StGB.[1692]

In the more common scenario where a **subordinate management level** (e.g. the trading department) engages in manipulations, it is highly controversial whether the infringement may be attributed to the company´s directors. In the absence of a director´s active behavior, he may only be liable for omission contrary to his duty. In the literature, omission has been based on the infringement of the director´s duty to legality. This duty does not only cover the director´s own compliance with the law, but also the duty to work towards compliance of the company´s employees.[1693] Hence, if a subordinate employee has committed manipulations in e.g. the energy market, the management of the company might, according to this view, be liable for the omission to install an effective compliance management system or a lack of supervision, Sec. 13 StGB.[1694]

While this view is widely accepted in the criminal law literature, it is still a topic of controversial discussion in civil law. In the past, the German Federal Court of Justice has however repeatedly denied liability of firm directors towards third parties for the infringement of the duty to legality due to a lack of guarantor status.[1695] In its 2012 verdict it argued that the duty to legality according to Sec. 93(1) first sentence AktG and Sec. 43(1) GmbHG only applies towards the corporation and does not serve the protection of creditors from negligent management.[1696]

In the civil law literature, liability is not denied as categorically as in the jurisdiction. Rather, a guarantor status shall be admitted in cases where supervision lacks completely *or* the infringement is accompanied by another breach of duty. Furthermore, some authors propose the limitation of liability to high-ranking individual legal assets, e.g. the exclusion of offences against financial assets.[1697] Hence, also from the point of view of the literature, liability of the firm directors in the external relationship is restricted to exceptional cases.

Eventually, also direct liability of **subordinate employees** engaging in manipulations is a possible legal approach for third parties to claim damages. Liability for intentional and

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[1692] Generally *Unnamed Decision*, Case VI ZR 341/10, BGHZ 194, 26 Ref. 24 (German Federal Court of Justice 2012).
[1693] Nietsch, "Die Garantenstellung von Geschäftsleitern im Außenverhältnis," *CCZ* Vol. 6, no. 5 (2013), 196.
[1694] Ibid, 192.
[1695] Hein, "Compliance - Haftungsrisiken für die Unternehmensleitung," *EWeRK* Vol. 15, no. 2 (2015), 74.
[1696] *Unnamed Decision, Case VI ZR 341/10, BGHZ 194, 26 Ref. 22, 23 (German Federal Court of Justice 2012).*
[1697] Nietsch, "Die Garantenstellung von Geschäftsleitern im Außenverhältnis," *CCZ* Vol. 6, no. 5 (2013), 197.

direct infringements of the law is uncontroversial.[1698] In cases of indirect infringements, liability of the employees is either denied or accompanied by an exemption from liability in the relationship between employer and employee.[1699] For the market manipulations discussed here, there will be no difference in the results, because the exemption from liability towards the employer shall only be granted in cases of simple negligence. The decision to retain capacity in order to influence the market price for power is, however, a conscious decision that is made intentionally. Hence, also a subordinate employee is liable in the external relationship. In practice, creditors who are firm outsiders will however face problems to identify the individual employee reliable for their damage, which hinders effective enforcement of the law.

cc) Conclusion

The above analysis of economic effects and legal opportunities from direct individual liability of firm directors and subordinate employees engaging in market manipulations has shown that the link between risk and liability is important in order to deter infringement of the law. German torts law offers a basis for damages claims for infringements that also fulfill the requirements of a statute that is intended to protect another person, Sec. 823(2) BGB.

Intentional and direct infringements of a protective statute, e.g. Sec. 263 StGB give rise to liability also in the external relationship to third parties. In practice, claimants who are firm outsiders will however often face problems to identify the reliable person in the firm and prove their claim.

IV. Results for the private prosecution of manipulations

Private market surveillance is a necessary complement of public surveillance efforts in the fight against market manipulations. This chapter has given an overview of the current legal framework in the EU and Germany. Namely in the field of antitrust damages, private surveillance efforts have taken a rapid development due to efforts at the EU level to implement rules that incentivize private damages claims.

[1698] Wagner, in *Münchener Kommentar zum Bürgerlichen Gesetzbuch*, ed. Säcker and Rixecker, 6th ed. (München: C.H. Beck, 2013), Sec. 823 BGB Ref. 115.
[1699] Ibid.

However, the economic and legal analysis showed that even with the recently introduced directive on private damages claims, a number of drawbacks remain that make the proof of the claim an uncertain and risky decision for claimants. A huge deterrent effect may therefore not be expected from this legal instrument. The same is true for the field of capital market law that does not contain specific legal bases for damages claims against infringements of Sec. 20a WpHG – which leaves claimants with the legal bases in the German Civil Code (BGB) that do however not yield promising results.

Finally, damages claims against firm individuals, e.g. on the management and subordinate levels were examined as a means of deterrence. It was shown that individual liability through damages claims has a number of shortcomings especially with reference to subordinate employees. It is not suited to efficiently deter market manipulations at low cost.

In conclusion, the analysis has revealed a number of conflicts between public and private market surveillance that minder the effectiveness of both approaches from an economic point of view. In legal categories, an infringement of European primary law was found due to the restrictive rules on access to leniency files that are required for the proof of damage by private claimants.

The following chapter five will therefore develop a system of integrated enforcement of fair market rules that ensures an optimal balance between public and private market surveillance.

C. Summary of the Fourth Chapter

The fourth chapter of this work has covered the field of private market surveillance. This area has immense potential to support the efforts of the antitrust authorities in the fight against market manipulations by increasing the level of deterrence.

However, the analysis revealed serious impediments to an efficient private surveillance system: Since public market surveillance efforts concentrate almost exclusively on the amount of the fine in order to reach the necessary level of deterrence $\Delta\Pi$, there is almost no room for private market surveillance efforts in the shape of damages claims that further increase the amount infringers have to pay in case of detection.

Further impediments to private market surveillance efforts, namely damages claims of victims of manipulations, arise from the unresolved conflict between public and private surveillance efforts: Authorities have incentives to handle requests for information from injured parties restrictively in order to protect their leniency applicants and thereby keep the leniency program an attractive option for manipulators in the future. This restrictive policy makes it however complicated and costly, sometimes even impossible for claimants to pursue their damages claim successfully – and hence results in too low incentives for private market surveillance.

This work therefore proposes an integrated system of market surveillance in the following fifth chapter that balances the conflicting incentives to considerably improve both public and private market surveillance in manipulation cases.

FIFTH CHAPTER: TOWARDS AN INTEGRATED LEGAL SYSTEM OF MARKET SURVEILLANCE

A. Introduction

"A policeman sees a drunk man searching for something under a streetlight and asks what the drunk has lost. He says he lost his keys and they both look under the streetlight together. After a few minutes the policeman asks if he is sure he lost them here, and the drunk replies, no, and that he lost them in the park. The policeman asks why he is searching here, and the drunk replies, "this is where the light is"."[1700]

The streetlight effect is a common observational bias in the social sciences. It refers to people only looking for the easiest solution to their problem and thereby limiting their possibilities for insight and understanding to a limited number of solutions –which does not necessarily contain the optimal one. Also with regard to the market manipulations in the energy wholesale market, research has taken a one-sided view on the problem. Either has only the field of public antitrust enforcement been considered in the case of the FCO sector inquiry (by legal assignment in Sec. 32e(2) GWB),[1701] or an approach purely based on capital market law has been followed.[1702] Also, the relationship between public and private enforcement, especially in antitrust, is not sufficiently clear: As the preceding chapter has shown, the regime for private damages claims in antitrust suffers from a number of weaknesses that minder the effectiveness of private market surveillance.[1703] Moreover, also the public market surveillance is weakened by the conflict with private interests.[1704]

Also, this work has so far focused on isolated solutions for the different fields of law, as well as the relationship of public and private prosecution of infringements of the market integrity. However, since a comprehensive economic analysis of the problem is the task, this chapter will shift the focus to the requirements for an effective system of enforcement

[1700] The streetlight effect refers to an observational bias and was first introduced by Abraham Kaplan, *The Conduct of Inquiry: Methodology for Behavioral Science* (Transaction Publishers, 1964), 11.
[1701] Federal Cartel Office, Sektoruntersuchung Stromerzeugung/Stromgroßhandel, 2011, B10-9/09.
[1702] Refer e.g. to the works of *Brunke, Die Strafbarkeit marktmissbräuchlichen Verhaltens am Spotmarkt der European Energy Exchange* (Frankfurt am Main: Peter Lang, 2011). And Wiesner, *Der Stromgroßhandel in Deutschland: Die Anwendung des Wertpapierhandelsgesetzes auf den deutschen Stromgroßhandel zur Stärkung der Marktintegrität*, Europäische Hochschulschriften (Frankfurt am Main: Peter Lang, 2010).
[1703] Dworschak and Maritzen, "Einsicht - der erste Schritt zur Besserung? Zur Akteneinsicht in Kronzeugendokumente nach dem Donau Chemie-Urteil des EuGH," *WuW* Vol. 63, no. 9 (2013), 830.
[1704] Ibid, 836. Also refer to Thomas Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Stefan Bechtold, Joachim Jickeli, and Mathias Rohe (Baden-Baden: Nomos, 2011), 323.

of market rules that takes into consideration the reciprocal interference and conflicts of objectives of the different legal tools.

First, a complete overview of the different approaches discussed so far will be presented. From this scheme, interrelations between the different approaches and the potential for conflicts will be derived (section B.).

The following section C. will present the requirements for an effective and efficient integrated legal system of enforcement for fair market behavior in complex market environments like the EEX. Section D. points to the constitutional requirement of the changes proposed and the final section E. concludes.

B. Interrelations Between the Different Legal Tools

So far, the analysis was limited to partial considerations: Only one variable has been varied while all other variables influencing the level of deterrence have been kept constant. This approach led to a number of different proposals to approach the optimal level of deterrence for market manipulations. Those are pictured in the following figure 18 in an overview.

Yet, in order to reach the optimal level of deterrence, a combination of the different approaches is required. Otherwise, a further increase of the level of deterrence may not be reached based on just one legal instrument or the cost of the individual approaches is too high compared to a combination of different approaches. However, the combination of different approaches involves the risk of conflicts between the solutions that minder the effectiveness of deterrence.

In the course of this work, it has already been made reference to conflicts between the different solutions, namely with regard to the governmental fining policy (D_G) that conflicts with private damages claims efforts (D_P) in various ways.[1705] A solution to ensure effectivity of both legal tools is required. Also within the scope of governmental fining D_G, conflicting rules may be found if an offence violates rules from different legal fields, e.g. antitrust and capital market law. It needs hence to be decided which rule applies or whether there is parallelism in applicability. The same is true for the field of antitrust where a number of corporate and individual sanctions need to be coordinated.[1706]

The challenge for the legal system is hence to optimally balance the different tools of deterrence.[1707] This section will show which conflicts arise between the means of deterrence for market manipulations in the energy market discussed in this work. The following section C. will take this up and propose solutions to the conflicts detected. Section D. shows the necessity of the proposed changes from a legal point of view while section E. summarizes and concludes.

[1705] Refer to the fourth chapter of this work, section B.I.1. a) aa) (5) of this work.
[1706] Ginsburg and Wright, "Antitrust Sanctions," *Competition Policy International* Vol. 6, no. 2 (2010), 5.
[1707] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 601.

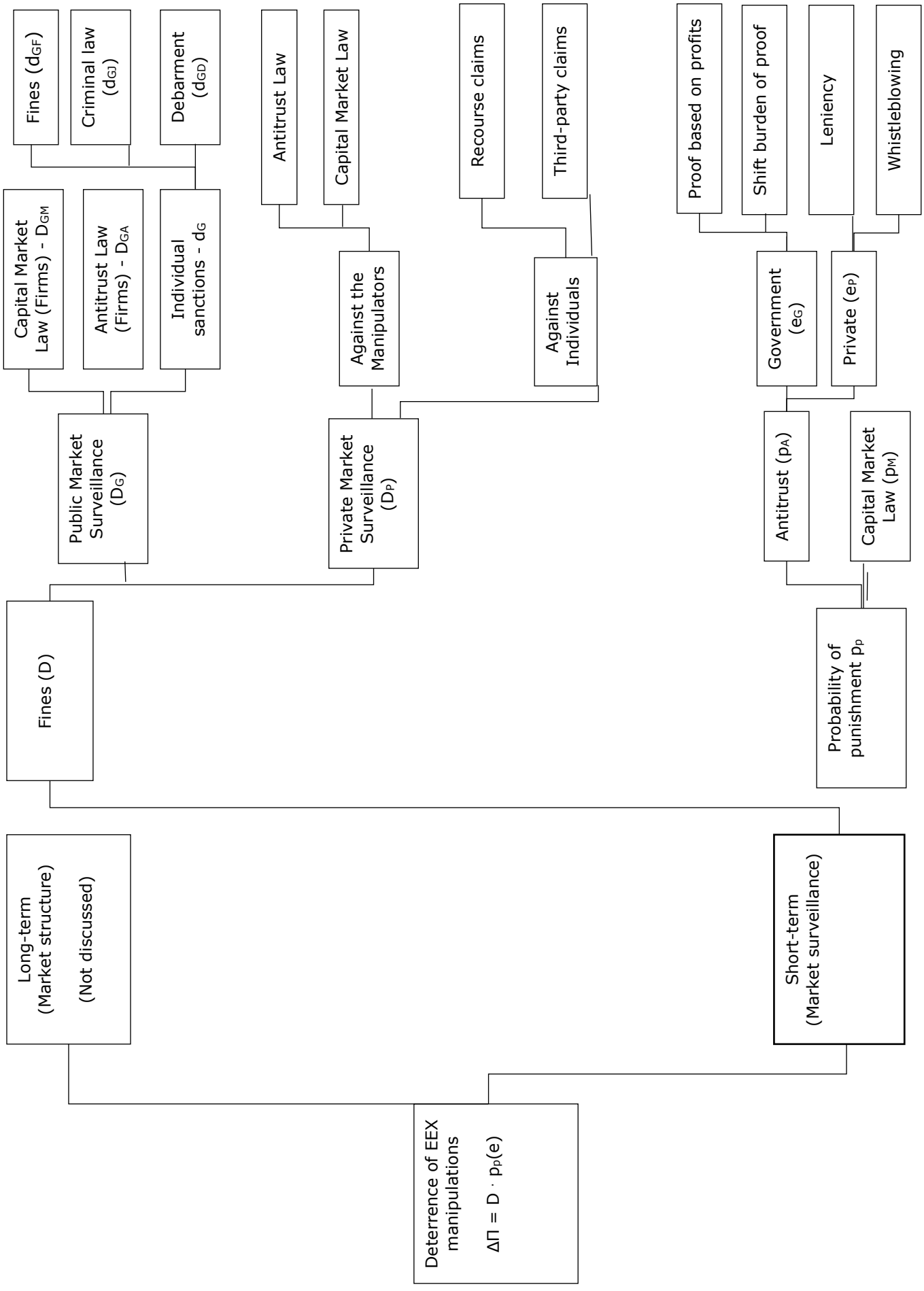

Figure 18: Overview of the legal tools to reach the optimal level of deterrence

I. Overview of the conflicting fields of law

From the overview of legal tools to increase the level of deterrence for market manipulations at the energy exchange, conflicting fields may be derived. The most important ones are:

- Conflicts between public and private prosecution of infringements, namely in the field of antitrust,
- conflicts between different fields of law with regard to the applicability, e.g. between antitrust and capital market law, and
- conflicts between corporate and individual sanctioning for infringements of the law.

The following sections will demonstrate the potential for conflict in the three named fields in depth.

II. Conflicts between public and private prosecution of infringements

One of the main conflicts arises between public and private prosecution of infringements of market rules, namely in the field of antitrust.[1708] First, private prosecution through damages claims against the manipulators influences the fines level (D): It increases the financial burden the manipulator has to bear:

$$D = D_G + D_P.$$[1709]

The fine resulting from the individual maximization of public fines (D_G) and private damages (D_P) might infringe the economic liability condition:

$$C_D \leq \Pi_i + A_i.$$[1710]

[1708] Cornelis Canenbley and Till Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft. 50 Jahre FIW: 1960 bis 2010. Festschrift* (Köln: Carl Heymanns Verlag, 2010), 144.
[1709] Ibid, 151.
[1710] Refer to the third chapter of this work, section B.II.1. a) cc).

As has been shown before, fines exceeding this threshold have no further deterrent effect for the parties involved and are hence inefficient from an economic point of view.[1711] The solution of this conflict is hence a necessary step to effective deterrence.[1712]

Second, private prosecution of manipulations also influences the probability of prosecution (p_p) of the public prosecutor: The manipulators´ incentive to participate in the antitrust authority´s leniency program decreases if he faces additional damages claims besides the (reduced) governmental fine.[1713]

On the other hand, the incentives for private claimants to sue manipulators and participate in the prosecution of infringements decrease with high efforts of the authorities to protect the infringers from damages claims in order to preserve the attractiveness of their leniency programs.[1714] As has been shown, this happens through high hurdles from both the Commission and the FCO for the access to evidence that is required to win a case.[1715]

Hence, also private prosecution efforts and the governmental leniency policy require a balanced solution in order to avoid conflicting incentives for market participants.[1716]

[1711] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 634. Refer also to Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," *WuW* Vol. 61, no. 12 (2011), 1238.

[1712] Focussing on the economic optimum Krüger, *Öffentliche und private Durchsetzung des Kartellverbots von Art. 81 EG: Eine rechtsökonomische Analyse*, ed. Behrens, et al., Ökonomische Analyse des Rechts (Wiesbaden: Deutscher Universitäts-Verlag, 2007), 327 et sqq.

[1713] Mäger, Zimmer, and Milde, "Chance vertan? - Zur Akteneinsicht in Kartellakten nach dem Pfleiderer-Urteil des EuGH," *WuW* Vol. 61, no. 10 (2011), 938. Refer also to Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 624, 630 et sqq. Refer also to Kurt Stockmann, "Zur neueren Bußgeldpraxis bei Kartellverstößen," *ZWeR* Vol. 10, no. 1 (2012), 30-31.

[1714] Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 321.

[1715] Sebastian Jungermann, "Obtaining US-Discovery for Use in German Private Antitrust Actions," *WuW* Vol. 64, no. 1 (2014), 4. See also Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 322. Also Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 153.

[1716] Mundt, "Kartellverfolgung im 21. Jahrhundert," in *Recht, Ordnung und Wettbewerb. Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos Verlag, 2011), 439. Refer also to Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," *WuW* Vol. 62, no. 5 (2012), 485. Also Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 611, 623 et sqq. Refer also to Christian Alexander, *Schadensersatz und Abschöpfung im Lauterkeits- und Kartellrecht* (Tübingen: Mohr Siebeck, 2010), 303.

III. Conflicts between different fields of law

A second important potential conflict arises between the different fields of law applicable on the market manipulations at the EEX presented in this work. Those are namely:

- **Antitrust (D_A):** In antitrust, infringements of Sec. 19(2) N° 2 GWB, as well as Art. 102 TFEU are possible in case of market manipulations.[1717] The infringement is punishable by a fine under Sec. 81(1) respectively (2) GWB.

- **Capital Market Law (D_M):** In capital market law, manipulations of the EEX were qualified as infringements of the former Sec. 20a(1) first sentence N° 2 WpHG in conjunction with Sec. 3(2) N° 1 MaKonV, as well as Sec. 20a(1) first sentence N° 1 WpHG (information based manipulations) and Sec. 20a(1) first sentence N° 3 (other manipulations). They are now infringements of Art. 12, 15 MAR. According to Sec. 39(3d) N° 2, 39(4a) WpHG, a fine may be imposed.

- **Energy Law (D_E):** In energy law, Sec. 95(1b) and (1c) EnWG contain fines provisions for infringements of REMIT that are fulfilled in case of market manipulations at the energy exchange.

Hence, in case all of the fines provisions apply in parallel, the infringer would face a public fine of

$$D_G = D_A + D_M + D_E, \text{ which is}$$

$$D_G = \underbrace{0{,}1 \cdot (p \cdot x)}_{\text{Antitrust fines}} + \underbrace{0{,}15 \cdot (p \cdot x)}_{\text{Capital market fines}} + \underbrace{1 \text{ mio.} + \delta \cdot [(p^{**} \cdot x) - (p \cdot x)]}_{\text{Energy law fines}}.^{1718}$$

In case all of the above fines provisions do in principle apply to the market manipulations at the EEX, the question needs to be answered whether there is parallelism in application *or* whether one of the fields of law rules out the application of the others.[1719] Otherwise, the infringement of the economic liability condition

$$C_D \leq \Pi_i + A_i$$

is inevitable. Also, the more formal question which public authority shall be competent for the EEX manipulations needs to be answered:

[1717] Refer to the second chapter of this work, section B.II.
[1718] For details on the scope of the fines refer to the discussion in the third chapter of this work in section B.II.1.
[1719] Daniel Zimmer, "Kartellrecht und Marktmanipulation," *WuW* Vol. 63, no. 10 (2013), 811.

- The FCO with its expertise in antitrust,
- the BaFin supervising financial markets, and/or
- the BNetzA with regulatory competence for the energy sector.

An integrated solution will have to decide which authority to award the (main) competence for energy market manipulations in order to avoid inefficiencies from an uncertain allocation of rights and duties.

IV. Conflicts between corporate and individual sanctioning

Also between corporate and individual sanctioning, there is potential for conflict. It may arise with regard to recourse claims of the firms. Some authors argue that allowing recourse claims of firms against their (former) employees minders the deterrent effect of the fine for the firm, because the firm no longer has to bear the full burden of the financial sanction.[1720]

However, this conflict has already been solved in the specific section on recourse claims[1721] and shall therefore not be treated any further in this section.

V. Summary and conclusion

In summary, two important conflicts of interest arise that need to be addressed by an integrated system of enforcement of fair market behavior at the EEX. Those are the conflict between public and private market surveillance with regard to the level of the fines and the probability of punishment, as well as the conflict between different fields of law referring to the level of fines.

[1720] Twele, *Die Haftung des Vorstands für Kartellrechtsverstöße*, ed. Dörner, Ehlers, and Heghmanns, Münsterische Beiträge zur Rechtswissenschaft - Neue Folge (Baden-Baden: Nomos, 2013), 161-162. See also Fabisch, "Managerhaftung für Kartellrechtsverstöße," *ZWeR* Vol. 11, no. 1 (2013), 102.
[1721] Refer to the third chapter of this work in section B.III.2.a) aa) (2).

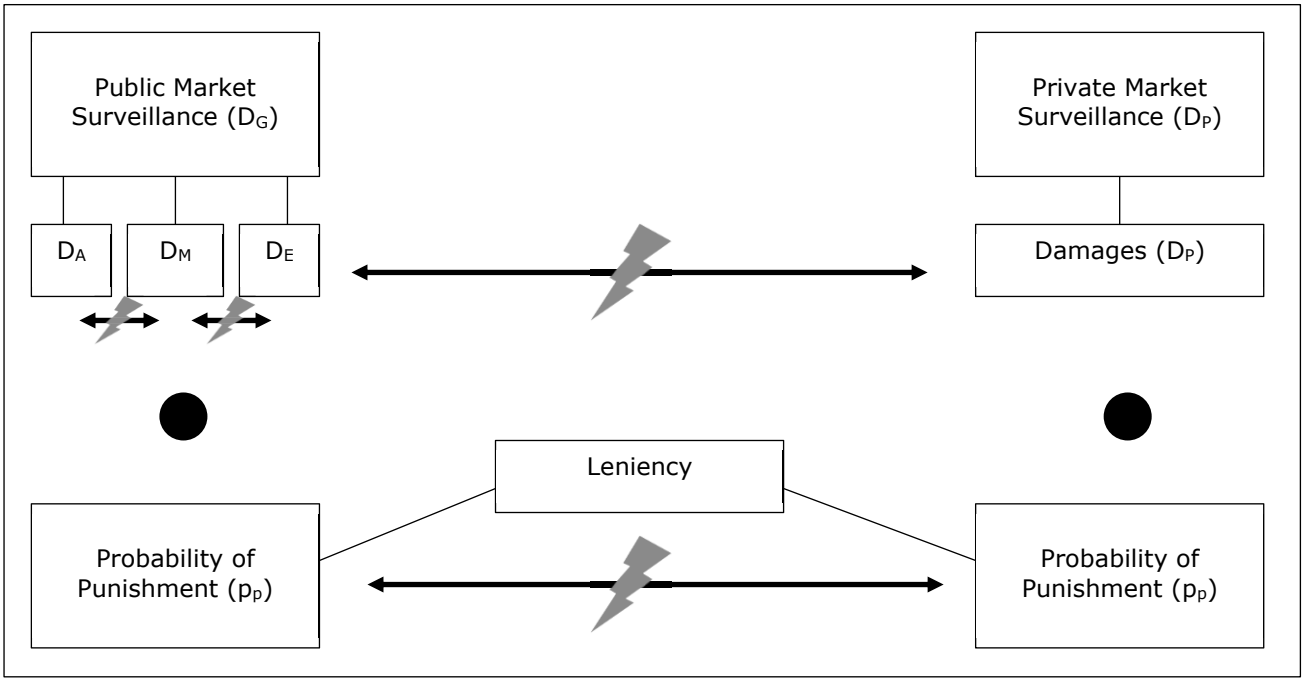

Figure 19: Central conflicts of law enforcement at the EEX

The following section C. will propose a solution to the conflicting fields that enables public authorities and private claimants to effective enforcement of the market rules.

C. An Integrated System of Enforcement of Fair Market Behavior at the EEX

The preceding section has shown that two main conflicts arise with regard to the enforcement of market rules in complex market environments like the EEX, which are between public and private prosecution of infringements and the different fields of applicable law. This section will discuss solutions to these conflicts, starting with the conflicting fields of law in section I. and treating public and private prosecution in section II. Section III. combines both approaches to an integrated system of law enforcement for fair market behavior at the EEX. Section IV. summarizes and concludes.

I. The balance between the conflicting fields of law

The three fields of law involved in the case of market manipulations at the energy exchange – antitrust, capital market and energy law – do basically apply in parallel. The different offenses have individual prerequisites and, with them being fulfilled in an individual case, apply. However, the relation between their requirements needs to be clarified.[1722]

Yet, the **rule of law** (Art. 20(3) GG), more precisely the principle of proportionality, applies, stating that no legal action shall be punished twice (principle **ne bis in idem**).[1723] In German law, this principle has been laid down in Art. 103(3) GG specifically for the field of criminal law. It needs however to be discussed whether

- ne bis in idem also applies to administrative offences and
- different fields of law applying already constitute a repeated punishment.

[1722] Markus Ludwigs, "Die Rolle der Kartellbehörden im Recht der Regulierungsverwaltung," *WuW* Vol. 58, no. 5 (2008), 534, 550. For the fields of capital market and antitrust law refer to Holger Fleischer, "Finanzinvestoren im ordnungspolitischen Gesamtgefüge von Aktien-, Bankaufsichts- und Kapitalmarktrecht," *ZGR* Vol. 37, no. 2-3 (2008), 223.

[1723] Eberhard Schmidt-Aßmann, in *Grundgesetz-Kommentar*, ed. Theodor Manuz and Günter Dürig, 75 ed. (München: C.H. Beck, 2015), Art. 103 GG Ref. 288.

1. The application of ne bis in idem to administrative offences

Art. 103(3) GG, stating that no legal action shall be punished twice, explicitly only applies to criminal sanctions.[1724] It remains hence to be shown whether sanctions based on administrative offences are also subject to the ne bis in idem principle.

Even if Art. 103(3) GG does not apply directly, the constitutional guarantees (rule of law, Art. 20(3) GG) contain a comparable level of protection. In particular the principle for proportionality contains limitations for repeated or double sanctions.[1725] This general rule is further concretized by Sec. 84 OWiG: A legal action that has already been punished with a fine or according to the rules of administrative offences or criminal law may not be pursued under the rules of the act on administrative offences again, Sec. 84(1) OWiG. However, the OWiG allows for the opening of a criminal examination after the fine notice took legal effect, Sec. 102(1) OWiG. This criminal procedure requires yet the annulment of the fine notice and the crediting of the fine already paid, Sec. 86(1), (2) OWiG.

These norms do however not contain a general rule that states "that there may not be several adverse consequences for one legal action".[1726] Rather, it needs to be decided in the individual case whether a multiple punishment is proportional and in accordance with the constitutional guarantees.[1727] Since those, as shown, also apply to administrative offences, the next section will discuss the constitutionality of sanctioning market manipulations according to different legal rules in antitrust, capital market and energy law.

2. Constitutionality of sanctions from different fields of law

The rule of law, namely the principle of proportionality, limits multiple sanctions for legal actions. However, it does not contain precise rules for any individual case. More generally, it states that multiple punishments with an identical or largely identical sanction are interdicted. Hence, a sanction is precluded if it is identical with an earlier sanction in all details.[1728]

[1724] Ibid, Art. 103 GG Ref. 286.
[1725] Ibid, Art. 103 GG Ref. 289.
[1726] Ibid, Art. 103 GG Ref. 278. With reference to *Unnamed Decision*, Case 2 WD 42/84, BVerwGE 83, 1 Ref. 67 (German Federal Administrative Court 1985).
[1727] *Unnamed Decision, Case 2 WD 42/84, BVerwGE 83, 1 Ref. 67 (German Federal Administrative Court 1985).*
[1728] Ibid. Refer also to Eberhard Schmidt-Aßmann in *Grundgesetz-Kommentar*, ed. Manuz and Dürig, 75 ed. (München: C.H. Beck, 2015), Art. 103 GG Ref. 280.

With regard to the sanctions in antitrust, capital market and energy law, it remains hence to be examined whether and in how far they need to be considered as "identical punishments" from a constitutional proportionality perspective.

a) The relation between antitrust and capital market law sanctions

As shown in the previous section, the relation between antitrust and capital market law sanctions depends on the question, whether those sanctions are "**identical**". This is namely to be determined with regard to the (different) protection mandates that the government exercises with the application of antitrust and capital market law. Also, the punitive and preventive functions of the different sanctions need to be considered.[1729] Multiple sanctions tend to be allowed where the functions and goals of the laws involved are strictly different. On the other hand, they tend to be unlawful the closer they are to each other. However, even for sanctions whose functions are strictly different, an obligation to crediting may result.[1730]

aa) Differences in the legislative goals

With regard to the fields of antitrust and capital market law, it needs to be differentiated. Both codes aim at the regulation of free markets. While capital market law regulates a specific market – the capital market – antitrust is not market-specific but applies to any market. Still, the capital market laws (WpHG/WpÜG) may not generally be considered as special regulations in the relation to Art. 101 et sqq. TFEU and the German GWB.[1731]

Even despite such differences, the **US jurisdiction**, where the rules of the *Sherman Act* (antitrust) may conflict with capital market laws like the *Williams Act*, the courts repeatedly ruled that in principle, capital market law does not preclude antitrust rules. However, the Supreme Court assumed an implied exclusion of the applicability of antitrust in 2007 for actions that are also permitted under capital market laws. In its justification, the court

[1729] Eberhard Schmidt-Aßmann in *Grundgesetz-Kommentar*, ed. Manuz and Dürig, 75 ed. (München: C.H. Beck, 2015), Art. 103 GG Ref. 278.
[1730] Ibid, 280.
[1731] Jörn Axel Kämmerer, "Bemessung von Geldbußen im Wettbewerbs- und Kapitalmarktrecht: Eine komparative Betrachtung " in *Festschrift für Klaus J. Hopt zum 70. Geburtstag am 24. August 2010: Unternehmen, Markt und Verantwortung*, ed. Stefan Grundmann, et al.(Berlin: De Gruyter, 2010), 2050.

referred to a lacking expertise of the antitrust courts that might cause decisions, which hinder the smooth functioning of the capital markets.[1732]

For Germany and Europe, this settled practice is however not binding. Rather, the two fields stand in material concurrence to each other. While the antitrust laws aim at the protection of a system of free competition,[1733] capital market laws refer to the protection of the investors´ confidence in the functionality of the capital markets.[1734]

bb) Differences in the sanctioning systems

In European and German law, the differences in the sanction regimes in these fields are tremendous. While fines in antitrust may reach up to a billion Euros, capital market fines are limited to a million Euros.[1735] On the other hand, capital market law contains criminal sanctions for hardcore infringements that are not possible in antitrust.[1736] Whether this makes up for the enormous difference in fines may not be decided clearly,[1737] but is without relevance to the question of identical sanctions discussed here. Rather, it is important to notice that the two different sanctioning systems are both carefully balanced *internally* with regard to the particular regulatory goals of the law. This does however not yet allow for a conclusion on the relation *between* the systems.

Having regard to the capital market law criminal sanctions, there is clearly a qualitative difference to the fines in antitrust, even if they are considered to be criminal in nature due to their extreme scope.[1738] With regard to the fines it needs to be differentiated, considering namely the **goals of the legislator** from fining. Basically, antitrust fines aim at general and specific deterrence of infringements. However, also the excess profits from the infringements shall be levied, Sec. 81(5) first sentence and 34, 34a GWB as well as Ref. 17 of the FCO Guidelines on Fining.[1739] For capital market fines, the situation is slightly

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[1732] Fleischer, "Finanzinvestoren im ordnungspolitischen Gesamtgefüge von Aktien-, Bankaufsichts- und Kapitalmarktrecht," *ZGR* Vol. 37, no. 2-3 (2008), 223. With reference to *Credit Suisse Securities LLC v. Billing*, 127 S. Ct. 2383, 2396, 2007).

[1733] Maik Wolf, in *Münchener Kommentar Europäisches und Deutsches Wettbewerbsrecht*, ed. Joachim Bornkamm, Frank Montag, and Franz Jürgen Säcker, 2nd ed. (München: C.H. Beck, 2015), Sec. 19 GWB Ref. 1.

[1734] Schwark, in *Kapitalmarktrechts-Kommentar*, ed. Schwark and Zimmer, 4th ed. (München: C.H. Beck, 2010), Sec. 20a WpHG Ref. 7.

[1735] See the third chapter of this work in section B.II.1.a) and b). Refer also to Kämmerer, "Bemessung von Geldbußen im Wettbewerbs- und Kapitalmarktrecht: Eine komparative Betrachtung " in *Festschrift für Klaus J. Hopt zum 70. Geburtstag am 24. August 2010: Unternehmen, Markt und Verantwortung*, ed. Grundmann, et al. (Berlin: De Gruyter, 2010), 2044.

[1736] Ibid, 2056.

[1737] Ibid, 2059.

[1738] Refer to the third chapter in section B.IV.1.a)aa)(2).

[1739] Federal Cartel Office, Leitlinien für die Bußgeldzumessung in Kartellordnungswidrigkeitenverfahren, 2013.

different. The authorities have no means to levy excess profits from an infringement. This is partly due to the complex strategies used for infringements of the capital market rules that do not always manifest themselves in an injury of a certain group of people.[1740]

cc) Conclusion

The regulatory objectives of antitrust and capital market law are different ones, and so are the sanctioning systems. There is hence much to be said for a parallelism in application according to the constitutional principles of the rule of law introduced above. However, the principle of proportionality might require the crediting of a fine already paid as a sanction in one of the fields in case of the opening of a second procedure by another authority.[1741]

b) The relation between antitrust and energy law sanctions

In the relation between antitrust and energy law, the situation is comparable to the one between antitrust and capital market law just discussed: While antitrust regulates the freedom of markets in general, the field of energy law concerns a specific market – the energy market.[1742] According to Sec. 1 EnWG, the legislative goals of the code are a reliable, inexpensive, consumer-friendly, efficient and sustainable grid-bound supply of the public with electricity and gas.[1743] This includes namely the guarantee of effective and genuine competition with regard to the supply of electricity, Sec. 1(2) EnWG, as well as the implementation of European Community law in the field of grid-bound energy supply, Sec. 1(3) EnWG. Even though there may be manipulative strategies used that fulfill the requirements of both antitrust and the REMIT prohibitions, the character of the infringement is different from the exercise of market power by a dominant firm. An infringement

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[1740] Kämmerer, "Bemessung von Geldbußen im Wettbewerbs- und Kapitalmarktrecht: Eine komparative Betrachtung " in *Festschrift für Klaus J. Hopt zum 70. Geburtstag am 24. August 2010: Unternehmen, Markt und Verantwortung*, ed. Grundmann, et al. (Berlin: De Gruyter, 2010), 2053.
[1741] Schmidt-Aßmann, in *Grundgesetz-Kommentar*, ed. Manuz and Dürig, 75 ed. (München: C.H. Beck, 2015), Art. 103 GG Ref. 278. Similar with regard to the relationship between cartel damages and a government fine Weller, "Die Anrechnung pönaler Schadensersatzleistungen gemäß § 33 GWB auf Kartellbußen," *ZWeR* Vol. 6, no. 2 (2008), 180, 182.
[1742] More general Johanna Hartog, "Kartellrechtsaufsicht im Kontext der Regulierung," *EnWZ* Vol. 4, no. 12 (2015), 536.
[1743] Christian Theobald, in *Energierecht: Kommentar*, ed. Wolfgang Danner and Christian Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 1 EnWG Ref. 1 et sqq.

of REMIT does not even require market dominance, but may be committed by any firm engaging in trades in the energy market.[1744]

Hence, energy law focuses primarily on the functionality of the energy market with its particular characteristics from an ex ante perspective.[1745] According to REMIT, namely the consumers´ and market participants´ confidence in the integrity of power and gas markets are protected, which includes competitive pricing on the wholesale markets without market manipulations.[1746] On the other hand, antitrust aims at the freedom of markets in general and – with regard to abuse control – acts from an ex post perspective.[1747] The legislative goals are therefore considerably different.

Also with regard to the goals from fining there are differences between the two regulative systems. While, as has been shown in the previous section, antitrust sanctions aim at general and specific deterrence of infringements, but also contain an element of levy of excess profits earned, the sanctions codified in Sec. 95(1b) and (1c) N° 6 EnWG originate from the European REMIT regulation. This regulation was supposed to increase the integrity and transparency of the energy markets[1748] rather than protect the basic freedom of competitive markets from the exercise of market power by dominant firms.[1749] The different character of the infringements does mirror in the sanctioning regimes: Fines in energy law focus on deterrence of manipulations that may also have been committed by an individual person: Other than in antitrust, criminal sanctions of up to five years of imprisonment are possible under Sec. 95a(1) EnWG in connection with REMIT. However, also the punishment of the manipulating firm is possible by a fixed fine, as well as the levy of excess profits up to three times the amount earned due to the infringement, Sec. 95(2) first sentence EnWG.

[1744] Refer to the definition of market manipulations according to REMIT in Art. 2(2) of European Parliament and Council. *Regulation N° 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency*. EU Official Journal N° L326, p. 1-16. See also Theobald and Werk, in *Energierecht: Kommentar*, ed. Danner and Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 95a EnWG Ref. 12.

[1745] Franz Jürgen Säcker, "Das Verhältnis von Wettbewerbs- und Regulierungsrecht," *EnWZ* Vol. 4, no. 12 (2015), 532.

[1746] Theobald and Werk, in *Energierecht: Kommentar*, ed. Danner and Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 95a EnWG Ref. 3. With reference to recital 1 of *European Parliament and Council. Regulation N° 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency. EU Official Journal N° L326, 1-16.*

[1747] Säcker, "Das Verhältnis von Wettbewerbs- und Regulierungsrecht," *EnWZ* Vol. 4, no. 12 (2015), 534.

[1748] Norbert Huber, in *Energiewirtschaftsgesetz*, ed. Martin Kment(Baden-Baden: Nomos, 2015), Sec. 95 EnWG Ref. 1.

[1749] Such is the case for Sec. 19 GWB: Wolf, in *Münchener Kommentar Europäisches und Deutsches Wettbewerbsrecht*, ed. Bornkamm, Montag, and Säcker, 2nd ed. (München: C.H. Beck, 2015), Sec. 19 GWB Ref. 1.

Yet, scope and purpose of fining still remain considerably different between the two regulatory regimes due to the distinct structure of the infringements: While companies are in the focus of antitrust, energy law also comprises infringements committed by individuals.

Sec. 111 EnWG contains an exemption from the applicability of Sec. 19 GWB in the field of energy law: Questions referring to the grid (namely Sec. 17, 20 et sqq. EnWG) may not be subject to an abuse control according to Sec. 19 GWB. Yet, with regard to the manipulations of the wholesale markets for power subject to this work, the exemption does not apply and the parallelism of both regimes remains in force.[1750] This view is de lege lata confirmed by Sec. 130(3) GWB, stating that except from the rule in Sec. 111 EnWG, abuse control according to Sec. 19 GWB is applicable to the energy markets.[1751]

In conclusion, regulatory objectives of antitrust and energy law differ considerably, as well as the sanctioning systems applied. Therefore, both regulatory regimes apply in parallel, while the principle of proportionality may require the crediting of fines already paid in an earlier procedure.[1752]

c) The relation between capital market and energy law sanctions

The relation between capital market and energy law is slightly different from the ones discussed so far: Both codes regulate particular industries and, other than with antitrust, do not stand in a relation of generality versus specialty to each other. This fact already points to the differences of the two sector specific regulatory regimes. While capital market law focuses, as has been pointed out before, on the functionality of the capital markets in order to preserve the market participant´s confidence in the market outcome,[1753] energy law and namely the REMIT provisions specifically regulate the markets for power and gas to ensure fair trading of these goods in the wholesale markets.[1754] Even though capital market law applies on these wholesale markets, REMIT brings new rules that shall improve the fight against market manipulations in this particular industry.[1755]

[1750] Säcker, "Das Verhältnis von Wettbewerbs- und Regulierungsrecht," *EnWZ* Vol. 4, no. 12 (2015), 531.
[1751] Wolf, in *Münchener Kommentar Europäisches und Deutsches Wettbewerbsrecht*, ed. Bornkamm, Montag, and Säcker, 2nd ed. (München: C.H. Beck, 2015), Sec. 19 GWB Ref. 19.
[1752] Schmidt-Aßmann, in *Grundgesetz-Kommentar*, ed. Manuz and Dürig, 75 ed. (München: C.H. Beck, 2015), Art. 103 GG Ref. 278.
[1753] Schwark, in *Kapitalmarktrechts-Kommentar*, ed. Schwark and Zimmer, 4th ed. (München: C.H. Beck, 2010), Sec. 20a WpHG Ref. 7.
[1754] Theobald and Werk, in *Energierecht: Kommentar*, ed. Danner and Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 95a EnWG Ref. 3. With reference to recital 1 of *European Parliament and Council. Regulation N° 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency. EU Official Journal N° L326, 1-16.*
[1755] Theobald and Werk, in *Energierecht: Kommentar*, ed. Danner and Theobald, 86th ed. (München: C.H. Beck, 2015), Sec. 95a EnWG Ref. 4.

For this purpose, also the quality of the sanctions is different: In energy law, precisely according to Sec. 95a(1) EnWG in connection with REMIT, even criminal sanctions reaching up to imprisonment for a maximum of five years are possible in severe cases that result in an actual influence on the price in the wholesale markets.[1756] Furthermore, the authority may levy excess profits, Sec. 95(2) first sentence EnWG. Capital market law sanctions infringements of Sec. 20a WpHG with criminal sanctions as well, Sec. 38, 39 WpHG, including imprisonment of up to five years. The levy of excess profits is however not part of the sanctioning regime.

In conclusion, the differences between the regulated sectors and the sanctions suggest the parallel application of capital market and energy law. If the summation of fines results in an infringement of the principle of proportionality, crediting of fines already paid may be required.[1757]

d) Conclusion

In conclusion, the parallel application of sanctions from antitrust, capital market and energy law is no infringement of the ne bis in idem principle. There is material concurrence between the fields of law named. Solely the principle of proportionality may require the crediting of fines paid before in another legal procedure.

This finding requires the coordination of the authorities involved in the prosecution of market manipulations in order to come to a fair sanction of the infringement – at the best with consideration of expected damages to be paid as a result of private damages claims.

3. The coordination of FCO, BNetzA and BaFin

The parallel applicability of sanctions for market manipulations in the energy wholesale market from three different fields of law requires the coordination of the authorities involved[1758] in order to come to a total fine that is in accordance with the constitutional principle of proportionality.

[1756] Huber, in *Energiewirtschaftsgesetz*, ed. Kment(Baden-Baden: Nomos, 2015), Sec. 95a EnWG Ref. 2.
[1757] Schmidt-Aßmann, in *Grundgesetz-Kommentar*, ed. Manuz and Dürig, 75 ed. (München: C.H. Beck, 2015), Art. 103 GG Ref. 278.
[1758] With regard to the relationship of BNetzA and FCO refer to Säcker, "Das Verhältnis von Wettbewerbs- und Regulierungsrecht," *EnWZ* Vol. 4, no. 12 (2015), 535.

For the three named fields of law involved, the competent authorities under German law are:

- The Federal Cartel Office (FCO) for the field of antitrust,
- the Federal Network Agency (BNetzA) for the field of energy law (EnWG),
- the Saxon State Ministry of Economic Affairs, Labor and Transport (SMWA), and
- the Federal Financial Supervisory Authority (BaFin) for the field of capital market law.[1759]

In case of severe infringements triggering criminal sanctions, the public prosecutors ratione loci and ratione materiae may also be involved.[1760]

So far, there is only limited coordination between the three authorities with regard to manipulation cases at the energy exchange. Since the introduction of REMIT and its implementation in the German Act on the Establishment of a Market Transparency Unit for Electricity and Gas Wholesale Trading (Markttransparenzstellengesetz), FCO and BNetzA cooperate in the Transparency Unit at the BNetzA, Sec. 47a(1) GWB. A cooperation agreement between the two authorities regulates the allocation of responsibilities and the coordination of the data collection, Sec. 47a(3) GWB.[1761] The unit analyzes the data collected for suspicious facts that suggest an infringement of Sec. 1, 19, 20, 29 GWB and the corresponding Art. 102, 102 TFEU, as well as infringements of WpHG, BörsG and REMIT provisions, Sec. 47b(6) GWB.[1762] In case there is suspicion of an infringement, the information is passed on to the authorities to initiate proceedings in the relevant field, Sec. 47b(7) GWB.

However, the Market Transparency Unit does not coordinate the proceedings, once started, any more.[1763] The GWB contains provisions that empower the Market Transparency Unit to close cooperation agreements with other authorities, Sec. 47i(2) GWB. This is yet not compulsory and may not ensure coordination with regard to the total fine that results for the infringer from all – independent – proceedings. The constitutionality of the

[1759] Volker Lüdemann and Selma Konar, "Die Überwachung von Stromgroßhandelsmarkt und Emissionshandelsmarkt," *ZNER* Vol. 19, no. 2 (2015), 81.
[1760] See for example the procedures initiated by the public prosecutor´s office in Leipzig, reply to a request for information from January 8, 2015, case N° 206 AR 3564/14.
[1761] Lüdemann and Konar, "Die Überwachung von Stromgroßhandelsmarkt und Emissionshandelsmarkt," *ZNER* Vol. 19, no. 2 (2015), 82.
[1762] Tanja Reiner and Alexandra Rohlje, in *Münchener Kommentar Europäisches und Deutsches Wettbewerbsrecht*, ed. Joachim Bornkamm, Frank Montag, and Franz Jürgen Säcker, 2nd ed. (München: C.H. Beck, 2015), Sec. 47b GWB Ref. 20.
[1763] Ibid, Sec. 47b GWB Ref. 21.

total fine does however depend on the compliance with the principle of proportionality. With regard to the doubts that excessive antitrust fines alone raise in so far, coordination between the different proceedings is an urgent matter. The Market Transparency Unit in its current form may hence only be the beginning of an integrated prosecution system.

4. Conclusion

The preceding sections have shown that there is material concurrence between the sanctioning systems of antitrust, capital market and energy law. Yet, currently a comprehensive coordination system between the authorities involved – namely FCO, BNetzA and BaFin, is missing. The existing Market Transparency Unit establishes coordination between FCO and BNetzA in data collection and analysis and examines the data for infringements of all three named fields of law.

Still, a coordination mechanism for the resulting total fine that a company faces is missing. This is notably problematic with regard to the constitutional principle of proportionality that is according to this work already violated due to the excessive antitrust fines alone. The fact that other authorities´ fines and also potential payments to injured parties from private damages claims are not taken into account in the individual process of fining of any of the authorities involved aggravates this conclusion.

The solution to the conflict between the different fields of law hence requires a coordination system that goes beyond today´s Market Transparency Unit[1764] – or at least extends its powers to the coordination of the procedures started in the three authorities.

The following section II. will focus on the solution to the conflict between public and private prosecution using the example of antitrust. Thereafter, section III. combines both approaches to an integrated system of law enforcement.

II. Public and private prosecution in balance

To balance the conflicting interests of public and private prosecution of market manipulations, three approaches are being discussed:

- The elimination of barriers for private damages claims (section 1),

[1764] Lüdemann and Konar, "Die Überwachung von Stromgroßhandelsmarkt und Emissionshandelsmarkt," ZNER Vol. 19, no. 2 (2015), 87.

- the exemption from liability for the leniency applicant towards damages claimants (section 2), or
- a monistic system of law enforcement with centralized powers at the FCO (section 3).

This section will present and discuss the named approaches with regard to their effectiveness in the enforcement of infringements of the market rules.

1. The elimination of barriers for private damages claims

As has been shown, claimants pursuing damages claims against antitrust infringers suffer from problems to prove their claim in court due to the restrictive practice of the FCO with regard to the disclosure of information contained in the leniency application.[1765] Reducing difficulty to provide proof, mainly with regard to the extent of the damage in court, would hence eliminate a key barrier for private damages claims. This needs however to be realized in a way that does not minder the effectiveness of the FCO leniency program.

Some authors do therefore propose the **lowering of the legal requirements on the quantification of the damage**. *Inderst et al.* propose to move away from „seemingly precise" econometric modeling of the damage. Rather, the specification of lower and upper limits of the damage, preferably in connection with the probability that the actual damage is within these limits (confidence intervals), is recommended. The lower and upper bounds of the damage are determined using different empirical methods and assumptions in the process of quantification.[1766]

Today, Sec. 33(3) GWB in connection with Sec. 287 ZPO only allow for the estimation of the harm by the court in German law.[1767] The estimation requires the specification of the minimal damage that would have been paid in case the manipulation did not occur.[1768] This ruling is hence close to the *Inderst* solution. However, it remains debatable whether

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[1765] Jungermann, "Obtaining US-Discovery for Use in German Private Antitrust Actions," *WuW* Vol. 64, no. 1 (2014), 4. Also Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 322.
[1766] Inderst, Maier-Rigaud, and Schwalbe, "Quantifizierung von Schäden durch Wettbewerbsverstöße," in *Handbuch der privaten Kartellrechtsdurchsetzung*, ed. Fuchs and Weitbrecht (München: C.H. Beck, 2016), 46 (not yet published).
[1767] Makatsch and Mir, "Die neue EU-Richtlinie zu Kartellschadensersatzklagen - Angst vor der eigenen "Courage"?," *EuZW* Vol. 26, no. 1 (2015), 8.
[1768] *Berliner Transportbeton, Case 2 U 10/03 Kart, WuW/E DE-R, 2773 Ref. 31 (Higher Regional Court Berlin 2009).*

the specification of confidence intervals for the assessment of the damage really improves the situation for claimants. The underlying methodology is quite the same as for today´s seemingly precise determination of cartel damages – both approaches rely on statistical methods or econometric modeling and require comprehensive economic expertise and data. The effort and cost that claimants face may hence not be diminished – and so will not eliminate the barriers for private damages claims.

Jungermann proposes to **obtain discovery via an US District Court for use in German civil proceedings**.[1769] Discovery under title 28 of the United States Code section 1782(a) provides that a US district court may order a person residing or found in that court´s district to give testimony or produce documents for use in a proceeding in a foreign international tribunal upon the application of an interested person.[1770] This procedure starts after initiation of the proceeding and before the trial. Any party of the proceeding is given the right to request surrender of all documents, digital data, written interrogatories, or depositions relevant to the claim from the other party. Also trade secrets need to be disclosed, but may be subject to confidential treatment by the court.[1771]

However, discovery entails huge efforts and expenditures for the investigation of the substantive truth – a party shall not be in disadvantage only due to a an opposing party´s superior knowledge and evidence.[1772] A demand for legal assistance in the US discovery procedure is hence an effective tool for the collection of evidence that has been used before by German claimants in the context of patent and tax disputes.[1773] However, due to the high cost of the procedure, the barrier for private damages claims does not get smaller with the use of US-discovery.

An effective system of law enforcement hence requires a more far-reaching approach than the simple elimination of barriers in civil procedure for private damages claims against the manipulators.[1774]

[1769] Jungermann, "Obtaining US-Discovery for Use in German Private Antitrust Actions," *WuW* Vol. 64, no. 1 (2014), 4. Refer also to Steger, "Zugang durch die Hintertüre? - zur Akteneinsicht in Kronzeugenanträge von Kartellanten," *Betriebs-Berater* Vol. 69, no. 17 (2014), 970.

[1770] Jungermann, "Obtaining US-Discovery for Use in German Private Antitrust Actions," *WuW* Vol. 64, no. 1 (2014), 4.

[1771] Ibid, 6.

[1772] Ibid, 7.

[1773] Ibid, 17.

[1774] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 154. Similar Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 319.

2. Exemption from liability of the leniency applicant

A farther-reaching solution to the conflict between public and private prosecution of market manipulations is the exclusion from liability to third parties of the leniency applicant. In the literature, this solution is proposed:[1775] The leniency applicant is privileged in the internal relationship with the other infringers – while he may be sued by injured third parties on the basis of joint and several liability.[1776] Absolute protection of the data disclosed in the leniency application would hence no longer be required and claimants would have easy access the proof they require for a successful claim.[1777]

Yet, this approach raises constitutional concerns: Claims for damages are covered by the property guarantee in Art. 14 GG – the full exclusion of damages claims against the leniency applicant would hence be an intervention in this constitutional right that is hard to justify.[1778] In particular if the European law is also taken into perspective, which grants *full compensation* to parties injured by antitrust infringements, the justification of full exclusion of damages claims against the leniency applicant seems not feasible. Some authors do therefore propose the introduction of a damages multiplier comparable to the US treble damages (triple damages payments) in German law. This approach would in consequence allow for a differentiation of the damages payments between the infringers, e.g. treble damages for cartel members except the leniency applicant whose liability might be limited to single damages.[1779]

However, even this solution only works in the context of today´s leniency policy addressed solely to cartels. It would not have any effect on the approach followed in this work that extends the leniency policy to manipulations. In manipulation cases, only the manipulator discloses his infringement to the authority. In the absence of other cartel members, only the leniency applicant may be liable to third parties – there is no joint and several liability that he could be exempted from in the internal relationship.

[1775] Ulrich Schwalbe and Jan Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," ibid, 631.
[1776] Kersting, "Perspektiven der privaten Rechtsdurchsetzung im Kartellrecht," *ZWeR* Vol. 6, no. 3 (2008), 266. Also "Removing the Tension Between Public and Private Enforcement: Disclosure and Privileges for Successful Leniency Applicants," *Journal of European Competition Law & Practice* Vol. 5, no. 1 (2014), 4. Refer also to Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," *WuW* Vol. 62, no. 5 (2012), 485.
[1777] With further reference to the literature Christian Kersting, "Die neue Richtlinie zur privaten Rechtsdurchsetzung im Kartellrecht," ibid Vol. 64, no. 6 (2014), 569.
[1778] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 632.
[1779] Ibid, 634 et sqq.

Therefore, this approach may improve the situation of claimants in cartel cases, but is not suited to improve the prosecution of manipulation cases discussed in this work and will hence not be examined any further here.

3. A monistic system of law enforcement

Finally, a monistic system of law enforcement has been discussed in the literature.[1780] This section shall discuss the approach in depth. Basically, it denies the parallelism of public and private enforcement (dualistic model) and proposes to eliminate the separation between both systems. Rather, a **monistic public procedure** that connects fines and levy of profits procedures in one hand shall take the place of today´s two conflicting systems.[1781]

In more detail, the monistic system works as follows:

- The public fines procedure remains the same as it is today, including the application of the leniency programs of Commission and FCO to incentivize disclosure of infringements by the firms.

- In addition to pubic fining, the excess profits from the antitrust infringement are being levied by the authority – but not to the benefit of the treasury, but to the benefit of the injured parties. A further enforcement of damages claims shall be excluded.[1782]

[1780] Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," *WuW* Vol. 62, no. 5 (2012), 485 et sqq. Refer also to Hans Jürgen Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," ibid Vol. 61, no. 12 (2011), 1246 et sqq.

[1781] Thomas Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," ibid Vol. 62, no. 5 (2012), 485. Refer also to "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 331-332. Similar Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 143 et sqq.

[1782] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 157. Also Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," *WuW* Vol. 62, no. 5 (2012), 485.

a) Advantages of a monistic system

Such organization of law enforcement in antitrust has a number of **advantages** that have been pointed out by the literature:[1783]

- First and most importantly, the conflict between the leniency program in public enforcement and the need for access to evidence in private enforcement is being solved. While the leniency applicant remains exempted from the fine according to the rules of the applicable leniency program, his liability risk towards injured parties may be limited in the framework of the monistic procedure to a foreseeable and sensible amount.[1784]

- The problem of third-party access to evidence is resolved – since the whole procedure is one of administrative law, there is no need for an inspection of files by third parties.[1785]

- The expertise of the FCO with regard to the determination of the excess profits subject to levy of profits ensures a precise and cost-efficient determination of damages – other than to be expected by the civil courts that are no specialized experts in this field.

- Furthermore, the concentration of the procedures at the antitrust authorities ensures a consistent jurisdiction (which would be unlikely in case of several different civil damages claims before different courts) and safes costs.[1786]

- Also, it saves time and cost as compared to today´s dualistic system: The additional work for the antitrust authorities is less than if a number of cases were treated in parallel or in succession before the authorities and the courts.[1787]

- Eventually, the preventive deterrence of antitrust infringements increases if also leniency applicants face a (limited) liability towards the injured parties. At the same

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[1783] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 157. Also Kapp, "Das Akteneinsichtsrecht kartellgeschädigter Unternehmen: Bonn locuta, causa finita?," *WuW* Vol. 62, no. 5 (2012), 486-487.

[1784] Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 338.

[1785] Ibid, 339.

[1786] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift(Köln: Carl Heymanns Verlag, 2010), 159.

[1787] Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," *WuW* Vol. 61, no. 12 (2011), 1246.

time, the monistic system ensures that no inefficiently high level of deterrence is being installed due to the weak coordination of public and private enforcement.

However, antitrust authorities argue that it was not their task to take care of the compensation of damages. *Canenbley/Steinvorth* reply with the protective function of antitrust law: It is supposed to protect both, competition *and* the consumers. The authors do hence consider the determination of the damage and the distribution among the injured consumers as a consequent development of the antitrust enforcement system, rather than an inconsistency. Furthermore, fining shall not only refer to specific and general deterrence, but needs to factor into the detrimental effects of an antitrust infringement as well.[1788] Already today, the fine is calculated referring to the turnover from the sale of goods and services subject to the infringing practices (N° 5 of the German FCO guidelines on the determination of fines.[1789] Following *Canenbley/*Steinvorth, it is hence a question of fairness that the economic advantage is awarded to the group at whose expense it has been earned before.[1790]

A monistic system of law enforcement is therefore not only advantageous to balance the conflicting tools of public and private enforcement. It is even an original task of the FCO. The following section will thus discuss a potential design of the integrated system.

b) The design of the monistic system of law enforcement

While the literature agrees about the preservation of the current public fines system including the leniency program also in a future monistic system of law enforcement,[1791] there is some discussion about the detailed design of the compensatory share for private damages. Three approaches discussed at the moment shall be presented and evaluated

[1788] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 157.
[1789] Federal Cartel Office, Promulgation N° 38/2006 on the Determination of Fines Pursuant to Sec. 81(4) second sentence GWB, 2006, 38/2006.
[1790] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift(Köln: Carl Heymanns Verlag, 2010), 158.
[1791] Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 332. See also Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 157.

with regard to their ability to solve the conflict between public and private prosecution in the following sections. Those are:

- A fund that collects damages from the infringer for the distribution to the injured parties (section 1),
- The empowerment of the FCO to participate in or even take over private damages claims against the infringers (section 2), or
- the disgorgement of benefits from the infringers based on today´s Sec. 34, 34a GWB (section 3).

(1) A fund to collect damages from the infringers

Some authors propose the introduction of a fund that collects the damages payments of the infringers and distributes them among the injured parties during a defined period. Amounts that have not been claimed at due date would fall back into the treasury.[1792] This solution does however not specify how the damages payments are determined and divided between the infringers. In its current form, the proposal is therefore not suited to serve as a model for an integrated, monistic system of law enforcement.

(2) The FCO´s participation in private damages claims as "amicus curiae"

Bueren proposes a different solution to the dilemma of conflicting public and private prosecution: The antitrust authority shall be enabled to participate in private damages claims as "amicus curiae" and even have the power to overtake the privates´ claims. This approach would hence also work with antitrust infringements not yet known to the FCO.[1793] However, due to the problems of private parties to collect evidence to prove their claims even in cases known to the FCO, it appears highly unlikely that this approach proves successful. The detection and proof of the infringement will remain the core task of the antitrust authorities.[1794]

[1792] Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft.* 50 Jahre FIW: 1960 bis 2010. Festschrift(Köln: Carl Heymanns Verlag, 2010), 157.

[1793] Bueren, "Prämien für Whistleblower im Kartellrechtsvollzug: Eine rechtsökonomische und rechtsvergleichende Analyse," *ZWeR* Vol. 10, no. 3 (2012), 341-342.

[1794] Schwalbe and Höft, "Ausgestaltung von Kronzeugenprogrammen und private Kartellrechtsdurchsetzung," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 622.

(3) The disgorgement of benefits based on today´s Sec. 34, 34a GWB

Kapp proposes a different approach for the levy of excess profits: In his model, the levy is **based on today´s existing Sec. 34, 34a GWB that regulate the disgorgement of benefits by the antitrust authority** respectively associations.[1795] In a first step, the excess profits realized due to the antitrust infringement are determined. This refers to the difference between the profits due to the manipulation of the market (Π_M) and the (hypothetical) profits that would have been earned in a competitive market environment (Π_C):

$$\Delta\Pi = \Pi_M - \Pi_C.$$

Since the determination of profits requires internal information from the firm, a request for information may be started. If necessary, e.g. due to remaining uncertainties, the excess profit may be estimated according to Sec. 287 ZPO.

In addition to the excess profits, the antitrust authority charges a **procedural fee** from the infringers to cover the cost of the procedure. Finally, the authority issues notifications about the amount that shall be levied to all infringers.

Leniency applicants may be privileged by an exemption from the procedural fee and the exclusion of joint and several debt in this system.[1796]

If in the course of this procedure a damage caused by the infringement has been found, all potentially injured parties are being asked publicly to register their damages claims until a deadline (so-called opt-in procedure). Thereafter, the authority checks the justification of the registered claims. Finally, the overall distribution amount and the distribution system are determined.

Besides, legal protection is to be granted to parties whose damages claims have been rejected by the authority as unjustified.[1797]

(4) Conclusion

In conclusion, only the proposal by *Kapp* may convince if extended on abuse cases. His system is the only approach that truly integrates the private enforcement of antitrust damages into the existing public enforcement system. Only with this full integration, the

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[1795] Thomas Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," ibid, 334.
[1796] Ibid, 333.
[1797] Inspired by the approach for the case of hardcore cartels by ibid, 335-336.

above-named advantages of a monistic system may be realized and the conflict be solved for all parties concerned. Also, his proposal builds upon the existing Sec. 34, 34a GWB and does hence not require a completely new structure in the law and in practice in the antitrust authorities. The hurdles for a realization of this approach are hence comparably low.

c) The monistic system is in conformity with EU law

Since EU primary law requires effective legal protection and the right to claim damages for everybody who suffered harm from the infringement of EU law,[1798] the introduction of a monistic system of law enforcement would have to comply with this requirement. The design of the national enforcement system is not regulated in detail by EU law. Rather, it is up to the national parliaments to issue rules that guarantee effective enforcement of damages claims.[1799] German national rules on the enforcement of damages for private parties hence need to comply with the effectivity requirements established in EU law.

The integrated enforcement system presented in the preceding section ensures that injured parties may not only claim damages from the infringers, but also effectively get to enforce the payment in court. As compared to today´s dualistic system that leaves the proof of the claims and evidence for the quantification of the damage to the parties, effectiveness is highly improved in the monistic approach. It does hence not conflict with the rules of EU law.[1800] With a strict interpretation of EU law, one might even argue that the monistic approach is the only allowed choice for the Member States, if other approaches infringe subjective rights of the injured parties.[1801] Art. 101 et sqq. TFEU require effective enforcement of EU antitrust law by the national legal systems.[1802] A solution that leads to ineffective results in enforcement of antitrust sanctions like the current dualistic system practiced in Germany may hence not be in conformity with primary EU law.

[1798] *Courage Ltd v. Bernard Crehan, Case C-453/99, European Court Reports 2001, I-6297 Ref. 25-26 (European Court of Justice 2001).*

[1799] Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 337. With reference to *Courage Ltd v. Bernard Crehan, Case C-453/99, European Court Reports 2001, I-6297 Ref. 29 (European Court of Justice 2001).*

[1800] Kapp, "Abschaffung des Private Enforcement bei Hardcore-Kartellen," in *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, ed. Bechtold, Jickeli, and Rohe (Baden-Baden: Nomos, 2011), 337. Similar Canenbley and Steinvorth, "Kartellbußgeldverfahren, Kronzeugenregelungen und Schadensersatz - Liegt die Lösung des Konflikts de lege ferenda in einem einheitlichen Verfahren?," in *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft*. 50 Jahre FIW: 1960 bis 2010. Festschrift (Köln: Carl Heymanns Verlag, 2010), 159.

[1801] Weller, "Die Anrechnung pönaler Schadensersatzleistungen gemäß § 33 GWB auf Kartellbußen," *ZWeR* Vol. 6, no. 2 (2008), 186.

[1802] Thomas Ackermann, "Kartellgeldbußen als Instrument der Wirtschaftsaufsicht," ibid Vol. 10, no. 1 (2012), 6.

Still, this solution requires the legislator on both the national and the European level. However, improvements may still be made de lege lata: In the process of calculation of the fine, compensation paid to injured parties may be considered as a factor reducing the fine.[1803] This would be a first step to the coordination of public and private enforcement.

4. Conclusion

In conclusion, the integration of private enforcement of antitrust infringements in the public fines procedure (so-called monistic system) is a promising approach to solve the conflict between the two systems and achieve effective enforcement of antitrust infringements.[1804] *Kapp* has presented a model for hard core cartels that might, if extended to abuse cases, work as well for the manipulations at the energy exchange. It does however require changes by the legislator de lege ferenda to become effective.

III. The integrated system of law enforcement

The preceding sections have shown that supervision of the energy markets requires a far more integrated approach than common today. This refers to both, the coordination between the authorities involved in the prosecution of market manipulations *and* the coordination between public and private prosecution efforts.[1805]

Section I. showed that coordination between the FCO (antitrust), the BNetzA (energy law/REMIT) and the BaFin (capital market law) should happen at the existing Market Transparency Unit. This unit needs however extension de lege ferenda in order to successfully coordinate the outcomes of the three authorities´ procedures and come to a constitutional total fine for an infringement of the market rules.

Section II. concentrated on the balance between public and private prosecution and came to the conclusion that a monistic system of law enforcement that includes private damages claims in the public enforcement system is the most effective solution to this conflict.

[1803] Meyer-Lindemann, "Durchsetzung des Kartellverbots durch Bußgeld und Schadensersatz," *WuW* Vol. 61, no. 12 (2011), 1247.
[1804] With regard to the effectiveness argument also refer to Stockmann, "Zur neueren Bußgeldpraxis bei Kartellverstößen," *ZWeR* Vol. 10, no. 1 (2012), 45.
[1805] With regard to the coordination of public and private prosecution efforts refer to Block, Nold, and Sidak, "The Deterrent Effect of Antitrust Enforcement," *Journal of Political Economy* Vol. 89, no. 3 (1981), 443.

Bringing it all together, the solution must be an integrated system of law enforcement. The proposal is pictured in the following figure 20.

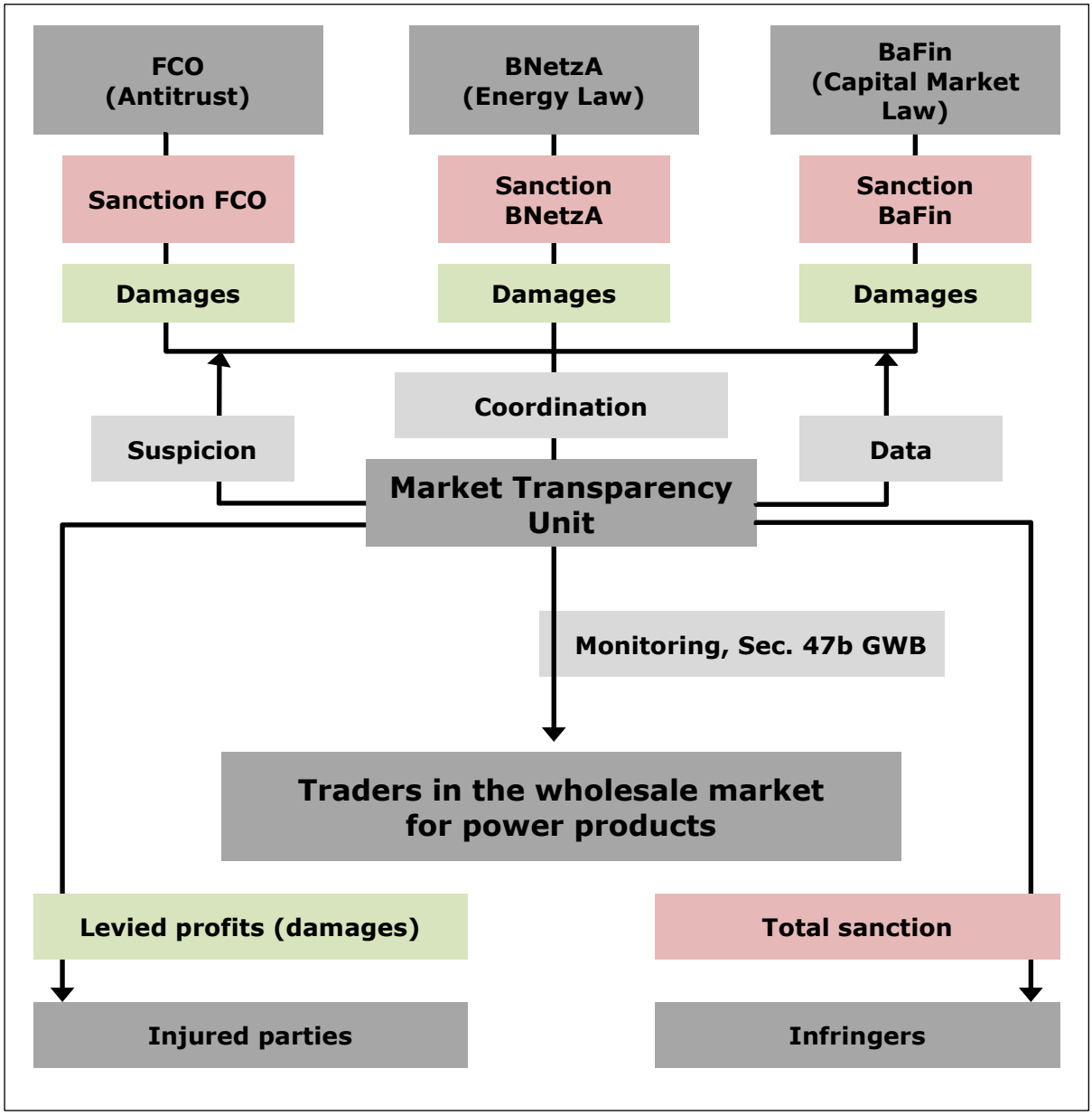

Figure 20: An integrated system of law enforcement for the wholesale market for power

The system contains the following steps:

- The existing Market Transparency Unit monitors the wholesale market for power, Sec. 47b GWB.
- In case of suspicion of an infringement, the examination is passed on to the competent authorities, already effective law, Sec. 47b(7) GWB.

- Other than today, the authorities conduct not only the public fines procedure, but also an organized levy of the excess profits based on the existing Sec. 34, 34a GWB. The excess profits from the infringement are calculated and balanced with the government fine.

- At the end of all procedures at the authorities involved, the total fine is found at the Market Transparency Unit in accordance with the constitution.

- Finally, the excess profits levied in the official procedure are distributed between the injured parties who have registered their damage.

This integrated solution ensures that the conflicts between the different prosecution approaches are solved the best possible way. Furthermore, it has several **advantages**:

- The crucial work is left to the authorities competent in the particular field.

- Still, coordination is ensured due to the continuous exchange at the Market Transparency Unit.

- The model builds on existing structures and does therefore not cause a fundamental change in the authorities involved or high modification expenses.

- A high number of parallel complicated and costly private damages claims is avoided.

- As a result, this integrated model of prosecution ensures that the complexity of the cases is well handled at a comparably low cost and that the constitutional principle of proportionality is respected.

IV. Conclusion

This chapter has identified the conflicts between the different approaches of law enforcement discussed in the first chapters of this work. It has been shown that efficient enforcement of the existing rules requires coordination between the authorities involved on the one hand and the public and private prosecution efforts on the other hand. As a solution, an integrated system of law enforcement has been presented. The next section will point out the consequences of these findings.

D. EU and German Constitutional Law Require the Integrated Monistic System

The preceding section has presented a solution to the conflicts between the different fields of law involved as well as public and private prosecution efforts. However, it has also been pointed out that the introduction of a monistic system of law enforcement as well as the extension of the Market Transparency Unit´s competence for coordination between the authorities involved may only be realized **de lege ferenda**.

However, there is particular urgency for the legislator to act in this case. As has been shown in the third and fourth chapters of this work, the current level of fines infringes European primary and German constitutional law.[1806] As a result, only fines below the level of criminal law are feasible de lege lata.[1807] The **combined fines** from procedures in different authorities, plus private damages claims from injured parties that are not included in the fines, by far **pass the limit to criminal sanctions**. Under the current system that knows almost no coordination of the activities of different authorities and private claimants, an infringement of constitutional law is hence day-to-day business. The legislator´s action is therefore urgently required.

Also with regard to **the current system of private prosecution** of antitrust damages claims, German law **infringes European primary law**. Indeed, has the European Union left the concrete design of the damages claims for injured parties to the Member States, Art. 3(1) of the antitrust damages directive.[1808] However, the system needs to allow for the *effective* enforcement of the claims, Art. 4 of the directive.[1809] As has been shown, this is not the case in German law.[1810] The legislator is hence asked to provide an effective system for private enforcement efforts. The EU requirements with regard to effectiveness may best be realized with a monistic system of law enforcement as proposed in this section.[1811]

The requirements of German constitutional and EU law combined point to an integrated solution that ensures effective enforcement of both public and private prosecution efforts in the energy wholesale market.

[1806] Refer to the third chapter of this work, section B.IV.1.a)cc).
[1807] Refer to the third chapter in section B.IV.1.a)bb)(6).
[1808] *European Parliament and European Council. Directive on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union. N° 2014/104/EU, EU Official Journal L 349, 1-19.*
[1809] See already *Courage Ltd v. Bernard Crehan, Case C-453/99, European Court Reports 2001, I-6297 Ref. 26 et sqq. (European Court of Justice 2001).*
[1810] Refer to the fifth chapter of this work in section C.I.1.a)cc).
[1811] Refer to the preceding section C. of this chapter.

E. Summary and conclusion

This fifth chapter has finally considered the interdependencies between all of the deterrence approaches based on either cost of detection C_D or probability of punishment p_p discussed in the first chapters of this work.

It could be shown that namely the conflicts between the different fields of law concerned in the exemplary case of manipulations in the energy wholesale market, respectively the authorities involved, and between public and private prosecution of the manipulations drive the enforcement in Germany rather ineffective. This fact minders deterrence tremendously: If manipulators do face a number of regulations that sanction manipulative behavior, but as well observe a lack of coordination between the authorities involved and no reliable perspective for private damages claims against their firms, they accurately deduce that a sanction is improbable – and carry on to manipulate as long as it is profitable.

A solution to the complex challenges that monitoring the energy wholesale market represents is not easy at hand. However, this chapter has shown that a practical and feasible solution might lie in the introduction of an integrated system of law enforcement that includes a combination of fines procedure and damages claims in a monistic system at the competent regulatory authority *and* extends the coordination between the authorities at the level of the existing Market Transparency Unit (Figure 29).

Finally, the pressure for the legislator to act and implement the necessary changes de lege ferenda was emphasized with reference to the infringements of EU primary and German constitutional law that are caused by the current ineffective system.

SIXTH CHAPTER: CONCLUSION AND SUMMARY OF THE FUNDAMENTAL RESULTS

A. Introduction

The economic and legal analysis of complex market manipulations using the example of the German wholesale market for energy conducted in this work has made an effort to cover the problem from all relevant perspectives in order to come to the most efficient and cost-effective solution.

This last chapter will now summarize the findings based on the theses initially suggested in the introductory first chapter (section B.). Thereafter, section C. contains an overview of recommendations for administrative or legislative action de lege lata and de lege ferenda, which results from the insights of the first five chapters of this work.

B. Fundamental Results of the Analysis

This work has treated the complex problem of market manipulations using the German energy wholesale market, namely at the marketplace European Energy Exchange from both an economic and a legal point of view. In the course of the analysis, the following theses could be proved:

(1) Data from the Federal Cartel Office´s and the European Commission´s inquiries, as well as the market structure in the market for power generation suggest that during the period of examination – the years from 2002 to 2008 – market participants, namely the four oligopoly firms E.ON, RWE, EnBW and Vattenfall, have had incentives to increase their profit through market manipulations.

(2) A successful fight against market manipulations needs to impact the behavior of market participants through regulatory measures. Namely, legislative measures need to target the incentive system for market participants in order to change it in a way such that manipulations of the market are no attractive option.

(3) The necessary impact on the market participants´ behavior is best reached by a change of the system of sanctions, because this causes repercussions on the offense. De lege lata, the FCO is required to change its approach to public market surveillance, making a shift from the current focus on tremendous fines towards an increased probability of punishment. Thereby, the total level of deterrence that guides the actors´ incentives is increased.

(4) Besides the shift in paradigm in public market surveillance, the legislator needs to create better incentives for injured parties to engage in private market surveillance efforts de lege ferenda. Thereby, the deterrent effect stemming from public market surveillance efforts is further increased and information carriers from the sphere of potential infringers may be incentivized to disclose the information they possess to the regulator.

(5) In order to achieve an effective and cost-efficient system of deterrence, better coordination of public and private market surveillance efforts is required. This goal is best achieved by an integrated system of market surveillance that avoids potential conflicts between the different legal instruments.

C. Recommendations for Action

Since the superior approach to the deterrence of market manipulations at the EEX requires legislative action – and may hence only be implemented de lege ferenda – this section will shortly list measures that promise improvements **de lege lata** and should therefore be realized immediately by the agents involved.

I. Improvements in market surveillance

In the field of market surveillance, in particular one instrument with a focus on the increase of the probability of punishment should be implemented in the short term: The **combined introduction of leniency for abuse cases together with financial rewards for whistleblowers**. This instrument promises to considerable increase the probability of punishment at lowest cost due to the implementation of a prisoner´s dilemma situation for market manipulators. This system should therefore be implemented de lege lata based on the existing rules of the FCO and individual negotiations with whistleblowers.

II. Conclusion

While the measure named in this section is not suited to solve the problem of market manipulations in complex scenarios like the energy exchange in its entirety, it proposes considerable improvements of deterrence in the very short term because it does not require changes of the existing laws that are necessarily accompanied by time-consuming legislative processes and discussions with uncertain outcome. Therefore, the proposal named in this section should absolutely be realized even before the numerous further changes to the legal system are implemented.

APPENXID I: BIBLIOGRAPHY

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